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A NEW

TREATISE

ON THE

DISEASES of HORSES:

Wherein what is neceſſary to the

KNOWLEDGE of a HORSE,

The Cure of his DISEASES, and other Matters relating to that Subject, are fully diſcuſſed, in a plain and eaſy Manner, from many Years Practice and Experience; with the cheapeſt and moſt efficacious Remedies.

BY

WILLIAM GIBSON, Surgeon,

In Duke-Street, Groſvenor-Square.

Illuſtrated with Thirty-two COPPER-PLATES.

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THE

PREFACE.

I SHALL make no apology, by way of Preface, for the enſuing Treatiſe; and ſhall only ſhew the method I have followed in the proſecution thereof.

I HAVE divided the Book into Three Parts.

THE FIRST contains a ſhort Deſcription of the properties peculiar to the different kinds of Horſes, viz. their age, ſhape, beauty, and goodneſs; alſo their faults and imperfections, as well thoſe that are natural, as thoſe that are acquired by habit, or are cauſed by imperfect cures, or other ill management. Wherein the reader is inſtructed in the knowledge of the Eyes and Feet, and in the ſymmetry and proportion of the various parts of a Horſe, in ſo plain and intelligible a manner, that any one may from hence, in a ſhort time, attain to a competent ſkill in Horſes.

The Second contains a ſhort Epitome or Abridgment of Anatomy, wherein all the Parts of a Horſe are deſcribed in an eaſy and inſtructive manner, for the benefit of thoſe who have not ſeen diſſections, or attended lectures of Anatomy.

In this anatomical Part I have ſtudied all poſſible brevity, and, at the ſame time, have omitted nothing that may give the reader a clear notion of the Animal Oeconomy, with the diſeaſes and accidents to which it is expoſed; which I have illuſtrated in ſeveral Places, from Obſervations on Horſes I have ſeen opened, as a proper foundation for underſtanding their diſeaſes.

The Third contains an Account of the ſeveral maladies and diſeaſes incident to Horſes, with their ſigns, cauſes, and method of cure.

This I have introduced with a Diſcourſe concerning the diet of horſes, and the different manner of Feeding, and other management, whether in the houſe or at graſs; and the accidents to which Horſes are expoſed by miſtakes of this kind. I have here alſo laid down ſeveral uſeful and neceſſary cautions concerning Exerciſe; directions for Bleeding; the caſes that require Purging; the proper time and manner; with many uſeful helps for rearing young Horſes that have been kept up and pampered for ſale, and thereby rendered unfit for preſent uſe. Alſo the beſt rules to preſerve Health, and to prevent thoſe accidents that either cauſe ſickneſs, or produce ſuch ill habits of body as often render Horſes unſerviceable.

In treating the Diſeaſes I have rarely conſulted any one author, having obſerved the writers on the ſubject of Farriery for the moſt part defective or trifling, either from their want of judgment or ſufficient experience; and therefore I have deſcribed the diſtempers of Horſes chiefly as they have occurred to me in many years practice, not only among gentlemen's horſes, where I have had great variety of extraordinary caſes, but among ſome hundreds of troop-horſes, which were conſtantly under my care: In all which I have advanced nothing but what will be found agreeable to the rules of practice, and what I have had confirmed by frequent experience; wherein I have ſtudied the utmoſt brevity, by avoiding all unneceſſary digreſſions and tedious diſquiſitions, which might only have the effect to puzzle thoſe who are not, in ſome meaſure, verſed in the knowledge of the ſeveral branches of phyſic: And therefore I have deſcribed each diſtemper, whether ſimple or complicated, by relating the true cauſes with the ſymptoms, as they ſhew themſelves by their various degrees and appearances; and have clearly diſtinguiſhed in all caſes where the ſame common ſymptoms are found in different diſeaſes, by other diagnoſtics and ſigns that are peculiar, and point out the diſeaſe immediately treated of; by which any man of common underſtanding may be able to proceed in the cure of moſt diſtempers with much greater certainty than by any helps of this kind that have been yet offered to the Public.

Neither have I been leſs regardful of the prognoſtics, by diſtinguiſhing the good from the bad; and in thoſe that portend Danger, I have endeavoured to account for them in an eaſy

eaſy familiary Way, to ſhew from whence ſuch bad prognoſtics generally ariſe, and how far any of the principal parts are affected when theſe appear, ſo as they may be prevented, or that a ſudden turn may be given to remove the ill diſpoſition that produces them. And this I look upon to be of ſuch conſequence to the right underſtanding the diſeaſes of Horſes and their cures, that, without ſome inſight into theſe things, it is impoſſible to practiſe with any certainty or ſafety.

I HAVE alſo taken notice of the incurable caſes of Horſes, whether thoſe proceeding from natural defects, or from accidents ill cured; likewiſe thoſe where the cure may be both uncertain, and at the ſame time ſo tedious as to exceed the value of the Horſe. All which I have deſcribed in a manner that ignorant pretenders to Farriery may be ſo far convinced, as not to undertake impoſſibilities; and that the owners of Horſes that are incurable, may not be impoſed on by ſuch perſons, nor keep Horſes to be only an uſeleſs and tireſome Expence.

UPON the whole, I have endeavoured as much as poſſible to render this work of public uſe, by treating the ſubject in ſuch a manner, that thoſe who have already attained to any knowledge in the diſeaſes of Horſes, will find I have advanced nothing but what will perfectly agree with their own experience; and to ſuch this Treatiſe will be a great help; and muſt alſo be the means to inſtruct thoſe who are unacquainted, or have had but little inſight into ſuch things, having not only ſtudied the greateſt plainneſs every where throughout the whole, but

given

given ſeveral inſtances of very extraordinary cures, and made many uſeful diſcoveries, which I hope may tend greatly to the preſervation of our Horſes. And as this was my chief deſign in compiling a new Treatiſe on the diſeaſes and maladies of Horſes, ſo I have formed it on a different and more practical ſcheme than thoſe books I formerly publiſhed on that ſubject. I have alſo inſerted the eaſieſt and cheapeſt remedies of all kinds, ſuch as I have found the moſt ſucceſsful in my own practice, and may be readily procured in the country, and many of them even in places remote from great towns. I have likewiſe given ſeveral precautions againſt bad drugs, and medicines not faithfully and well prepared, which often times hinder the expected ſucceſs.

Our Horſes being of no ſmall importance to the nation in general, both in peace and war, as well as of great uſe to particular perſons of all ranks, I judged I could not do a better and more uſeful ſervice than to publiſh my own experience, after ſo many years practice; wherein I have beſtowed more pains and labour, in rendering it ſuitable to every one's capacity and learning, than if I had given it a fuller ſcope, and extended it to a greater length, which, tho' it would have been more eaſy to myſelf, might have been leſs profitable to others. And therefore, in regard of the great pains and time I have ſpent in compiling ſo uſeful a Treatiſe, I may preſume to hope for ſome ſuitable encouragement from the Public.

The PREFACE.

I TAKE this opportunity to acquaint the Publick, that I have educated my ſon WILLIAM, with an intention to ſucceed me in my buſineſs, he having been conſtantly employed in it for theſe fifteen years paſt; and I hope, and am indeed perſuaded, he will give univerſal ſatisfaction.

Duke-Street, Oct. 1. 1750.

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PART I.

Containing the neceſſary Things for the Knowledge of a HORSE, &c.

CHAP. I.

The Proper Names of the External Parts of a HORSE.

AS my intention, in this ſhort treatiſe, is to render the knowledge of Horſes, with the accidents and diſeaſes to which they are liable, as plain and eaſy as poſſible: Therefore, that I may not deviate too far from the common method, I have begun with the names of the external parts of a Horſe; for tho' many of his parts have their names in common with all other animals, yet he has others that cuſtom has rendered peculiar to him only; and without ſome acquaintance with theſe terms and diſtinctions, we can neither know much of a Horſe nor of his Diſeaſes.

THE firſt thing that comes to be deſcribed in a Horſe is his Head, conſiſting of ſeveral Parts, as the Ears, the Noſe, the Mouth, the Forehead, the Eyes and Temples, &c. The two hollows above the Eyes, ſo remarkable, eſpecially in old Horſes, are called the Eye-pits. The Forehead is often called his Brow; and that part of the Head which is the moſt backward, where it joins to the Neck, is called the Poll or Noll; and the juncture of the Head and Neck the Onſet or Setting-on of the Head. The Upper and Under-Lips, including the Tip of the Noſe, form the Muzle; and the Hairs that are ſcattered on a Horſe's Under-Lip to the place where the curb of the bridle reſts, is called his Beard. The inſide of the Mouth, between the Lower Jaw-Bones, where the Tongue lies, is called the Channel. The fleſhy rows that run acroſs the upper-part of the Mouth, and are ſo diſtinguiſhable in young Horſes, are called the Bars, which reach almoſt quite to the Palate.

THE Neck reaches from the Head to the Shoulders. The Hair which grows along the upper-part, is called the Mane, and the part that is the moſt arched the Creſt, which in a fine Horſe full of vigour riſes ſemicircular, but when a Horſe has been diſeaſed or ſtarved that his Neck ſinks, he is ſaid to be Creſt-fallen.

THE Withers is the part that riſes upon the top of the Shoulders, and is compoſed of the higheſt Spines. It is from the top of the Withers that a Horſe is meaſured to know his ſize.

FROM the Withers to the hind-part of the Back are the Reins, which generally reach the length of the ſaddle to the higheſt Spine; and in ſome long-back'd Horſes a little beyond the length of a common ſaddle. Next the Reins are the Loins, which reach to the Croup; and where the Crupper lies is termed the Channel. The Croup reaches from the Reins to the Dock, and includes all that Declivity or Deſcent which goes to the Tail, and in men and ſome other animals is called the Rump.

THE Body of a Horſe is uſually called his Carcaſs; ſo that a large-bodied Horſe is ſaid to have a large Carcaſs, and a ſlender one to have a ſmall Carcaſs; and when the body is compact and well made, he is ſaid to be well carcas'd, or to have a good Carcaſs.

THE Flanks are ſufficiently known, being the parts on both ſides below the Reins which reach from the Short-Ribs to the Haunches; and the Belly is that which reaches from the Brisket to the Sheath.

THE Shoulders incloſe the whole Breaſt on both ſides, beginning from the Withers, and reaching downwards to the Fore-Legs or Arms.

THE Arms begin from the Shoulders, and the hind-part which points towards the Brisket is called the Elbow; the Fore-Leg or Arm reaches to the Knee; on the inſide runs the Plat Vein, which is often opened for lameneſs of the Shoulders or diſorders of the Lungs. The part which reaches from the Knee to the Paſtern is called the Shank; behind the Shank is inſerted into the Heel that ſtrong tendon called the Back-Sinew, which is ſo often ſubject to be ſtrained or hurt.

THE Paſtern reaches from the lower part of the Shank to the Foot; where it joins the Shank is called the Paſtern-Joint or the Fetlock-Joint, as ſome term it, from the tuft of hair that grows on the lower part of the Leg behind, above the Heel, which is called the Fetlock. The Paſtern has a juncture in the middle, to facilitate the motion of the foot; ſo that the upper part next the Shank is called the Great Paſtern, and that which joins the bone of the Foot, the Leſſer Paſtern, and where it joins the Foot is called the Coffin-Joint.

THE

THE Hoof is often called the Coffin, and the bone of the Foot the Coffin-Bone, becauſe the Hoof incloſes that bone, as in a coffin. The hair that circles round the upper part of the Hoof is called the Crown or Coronet.

THE Foot conſiſts of the Quarters, Sides, and Toe: The Quarters incloſe the Heel, compoſing the inner and outer quarter, and end with the extremity of the Heel. The Sides and Toe need no deſcription. The under part of the Foot is made up of the Fruſh or Frog, and the Sole. The Frog riſes from the middle of the Sole, and terminates at the Heel: It is more ſoft and elevated than the Sole, and is that part which the Farriers ſhape like the point of a ſpear, when they pare a Horſe's Foot, in order to his being ſhod. The Sole is that plate of horn which covers the bottom of the whole Foot, and adheres to the verge of the Hoof, where the nails are driven in ſhoeing.

IN the hind parts of a Horſe are his Haunches, which begin at the two bones on each ſide which incloſe the Loins, and deſcend to the Ham or Hock.

THE Stifle is that part which jets out from the edge of the Thigh towards a Horſe's Belly, when he is in any action that bends his Leg: It is the Knee-Pan of a Horſe, ſituated on the middle joint of the Thigh, between the Thigh-Bone and the Leg. The Whirl-Bone is the upper end of the Thigh-Bone, towards the Hip; and when that happens to be much ſprain'd, a Horſe is ſaid to be Hip'd.

THE Thigh or Gaſcoin begins at the Stifle, and reaches to the Ply or Bending of the Ham or Hock. When a Horſe is round and plump in the Thighs, he is ſaid to be well Gaſcoin'd.

THE Ham or Hough is the Ply or Bending of the Hind-Leg. The round knob behind is called the Heel of the Hock, or Cappelette, according to ſome writers, and where the great Maſter-Sinew is inſerted.

As the Small of the Fore-Leg is called the Shank, ſo the Small of the Hind-Leg is called the Inſtep. The Paſterns and Feet having the ſame names and uſes behind as before, need no further deſcription.

THESE being the uſual names and appellations by which horſemen diſtinguiſh the ſeveral parts of a Horſe, it remains only to take notice, that the Right-Side of a Horſe is always called his Off-Side, and his Left the Near-Side, being that to which we always approach when we go to mount or handle a Horſe. Upon this we alſo diſtinguiſh a Horſe's ſeveral parts; for inſtance, we ſay the Off-Leg and the Near-Leg, the Off-Foot and Near-Foot, the Off-Eye and Near-Eye; and ſo of others.

CHAP. II.

The ſureſt Marks whereby to know the Age of a HORSE.

THE age of a Horſe is eaſily known by his Mouth till he comes Eight, after which the uſual marks wear out. A Horſe, like many other brute-animals, has his Teeth divided into three ranks, *viz.* his Fore-Teeth, which are flat and ſmooth, his Tuſhes, and his Back-Teeth. His Back-Teeth or Jaw-Teeth are called his Grinders, being thoſe by which a Horſe chews and grinds his provender, and are in number twenty-four, twelve above and twelve below: They are ſtrong double Teeth, with ſharp edges; but when a Horſe grows old they wear much ſmoother.

THE firſt that grow are his Foal-Teeth, which begin to come forth a few Months after he is foaled: They are twelve in number, *viz.* ſix above and ſix below; and are eaſily diſtinguiſhed from the Teeth that come afterwards, by their ſmallneſs and whiteneſs, not unlike the Fore-Teeth of a man.

WHEN a colt is about two years and a half old, he caſts the four middlemoſt of his Foal-Teeth, *viz.* two above and two below; but ſome do not caſt out any of their Foal-Teeth till they are near three years old. The new Teeth are eaſily diſtinguiſhed from the Foal-Teeth, being much ſtronger, and almoſt twice their ſize, and are called the Nippers or Gatherers, being thoſe by which a Horſe nips off the graſs when he is feeding abroad in the fields, or in the houſe gathers his hay from the rack. When a Horſe has got theſe four Teeth complete he is reckoned three years old.

WHEN he is about three and a half, or in the ſpring before he is four years old, he caſts four more of his Foal-Teeth, *viz.* two above and two below, one on each ſide the Nippers or Middle-Teeth: So when you look into a Horſe's Mouth, and ſee the four Middle-Teeth full grown, and none of the Foal-Teeth remaining but the Corner-Teeth, you may conclude he is four that year about *April* or *May:* But ſome are later Colts, which, however, makes little alteration in the Mouth.

THE Tuſhes appear near the ſame time with the four laſt mentioned Teeth, ſometimes ſooner than theſe, and ſometimes not till after a Horſe is full four years old: They are curved, like the Tuſhes of other beaſts, only in a young Horſe they have a ſharp edge all round the top and on both ſides, the inſide being ſomewhat grooved and flatiſh, inclined to a hollowneſs.

WHEN a Horſe's Tuſhes do not appear for ſome time after the Foal-Teeth above-mentioned are caſt out, and the new ones come in their room, it is generally

generally owing to this, that their Foal-Teeth have been pulled out before their time, by the breeders or other dealers in horſes, to make a Colt of three years old appear like one of four, that he may be the more ſaleable; for when any of the Foal-Teeth are pulled out, the others ſoon come in their place; but the Tuſhes having none that go before them, can never make their appearance till their proper time, *viz.* when a Horſe is about four, or coming four: And therefore one of the ſureſt marks to know a four year old Horſe is by his Tuſhes, which are then but very ſmall and ſharp on the top and edges.

When a Horſe comes five, or rather in the ſpring before he is five, the Corner-Teeth begin to appear, and at firſt but juſt equal with the Gums, being filled with fleſh in the middle. The Tuſhes are alſo by this time grown to a more diſtinct ſize, tho' not very large: They continue likewiſe rough and ſharp on the top and edges. But the Corner-Teeth are now moſt to be remarked: They differ from the Middle-Teeth in their being more fleſhy on the inſide, and the Gums generally look rawiſh upon their firſt ſhooting out, whereas the others do not look diſcoloured. The Middle-Teeth arrive at their full growth in leſs than three weeks, but the Corner-Teeth grow leiſurely, and are ſeldom much above the Gums till a Horſe is full five: They differ alſo from the other Fore-Teeth in this, that they ſomewhat reſemble a Shell; and from thence are called the Shell-Teeth, becauſe they inviron the fleſh in the middle half-way round, and as they grow the fleſh within diſappears, and leaves a diſtinct hollowneſs and openneſs on the inſide. When a Horſe is full five theſe Teeth are generally about the thickneſs of a crown-piece above the Gums. From five to five and a half they will grow about a quarter of an inch high, or more; and when a Horſe is full ſix, they will be near half an inch, and in ſome large Horſes a full half-inch above the Gums.

The Corner-Teeth on the Upper-Gums caſt out before thoſe on the Under; ſo that the Upper Corner-Teeth are ſeen before thoſe below; on the contrary, the Tuſhes in the Under-Gums come out before thoſe of the Upper.

When a Horſe is full ſix years old, the hollowneſs on the inſide begins viſibly to fill up, and that which was at firſt fleſhy grows into a browniſh ſpot, not unlike the eye of a dried garden-bean, and continues ſo till he is ſeven, only with this difference, that the Tooth is more filled up and even, and the Mark or Spot becomes faint, and of a lighter colour. At eight the Mark in moſt Horſes is quite worn out, tho' ſome retain the veſtiges of it a long time; and thoſe who have not had a good deal of experience may

ſome-

ſometimes be deceived by taking a Horſe of nine or ten years old for one of eight. It is at this time only when a Horſe is paſt Mark, that one can eaſily err in knowing the age of a Horſe; for what practices are uſed to make a very young Horſe or Colt appear older than he is, by pulling out the Foal-Teeth before their time, may be diſcovered by feeling along the edges where the Tuſhes grow, for they may be felt in the Gums before the Corner-Teeth are put forth; whereas if the Corner-Teeth come in ſome months before the Tuſhes riſe in the Gums, it is to be much ſuſpected the Foal-Teeth have been pulled out at three years old.

I ſhall take little notice of the tricks that are uſed to make a falſe Mark in a Horſe's Mouth, by hollowing the Tooth with a Graver, and burning a Mark with a ſmall hot iron, becauſe thoſe who are acquainted with the true Marks, will eaſily diſcover the cheat by the ſize and colour of the Teeth, by the roundneſs and bluntneſs of the Tuſhes, by the colour of the falſe Mark, which is generally blacker and more impreſs'd than the true Mark, and by many other viſible tokens which denote the advanced age of a Horſe.

After a Horſe has paſſed his eighth year, and ſometimes at ſeven, nothing certain can be known by the Mouth: Nevertheleſs ſome Horſes have but indifferent Mouths when they are young, and ſoon loſe their Mark; others have their Mouths good for a long time, their Teeth being white, even, and regular ſometimes till they are ſixteen years old, and upwards, with many other marks of freſhneſs and vigour; but when a Horſe comes to be very old, it may be diſcovered by ſeveral indications, the conſtant attendants of age, *viz.* his Gums wear away inſenſibly, and leave his Teeth long and naked at their roots: The Teeth alſo grow yellow, and ſometimes browniſh. The bars of the Mouth, which in a young Horſe are always fleſhy, and form ſo many diſtinct ridges, in an old Horſe are lean, dry, and ſmooth, with little or no riſing. The Eye-Pits in a young Horſe (except thoſe ſaid to be come of old Stallions) are generally filled up with fleſh, look plump and ſmooth; whereas they are ſunk and hollow in an old Horſe, and make him look ghaſtly, and with a melancholy aſpect. There are alſo other marks which diſcover a Horſe to be very old, *viz.* grey Horſes turn white, and many of them all over flea-bitten, except about their joints. This, however, happens ſometimes later and ſometimes ſooner, according to their variety of colour and conſtitution: Black Horſes are apt to grow grey over their Eyebrows, and very often over a good part of their Face, eſpecially thoſe who have a ſtar or a blaze fringed round with grey, when they are young. I have known two or three inſtances of black Horſes turned white

and flea-bitten with extreme old age: However, this is but rare; for moſt black Horſes retain their native colour, except about their Face, Muzle, and ſome of their joints. All Horſes when very old ſink more or leſs in their backs, and ſome Horſes that are naturally low-back'd grow ſo hollow with age, that it is ſcarce poſſible to fit them with a ſaddle. Of this kind are ſeveral Spaniſh and Barbary Horſes, and many of the Daniſh and Flanders breed: Their Joints with old age grow alſo ſtiff, and their Knees and Hocks bend, and are apt to trip and ſtumble upon every the leaſt deſcent, tho' the way be ſmooth and noways rugged. After which they are of little uſe to the owner.

CHAP. III.

Such Faults and Defects as ought chiefly to be avoided in buying of HORSES.

I Believe moſt of thoſe who have had any great dealings in Horſes will readily agree in this, that few things in common life are more difficult than the buying of a Horſe well; and I have known many who have boaſted of their ſkill and dexterity that way, and made greater pretences than others in the knowledge of Horſes, very much deceived. This is a matter that does not depend upon a man's having more wiſdom or parts than his neighbours, but upon long experience, with a good taſte or fancy, regulated with ſome judgment; otherwiſe a man is like to make but an indifferent choice.

THERE are ſo many circumſtantial niceties about Horſes, eſpecially in what relates to the ſhape, make, and goings of a Horſe; and ſo much is ſaid about the marks of goodneſs and badneſs in Horſes, that it would fill up a whole volume to recount half of what one may hear talked in a few days upon that ſubject; and therefore I ſhall only here have a regard principally to ſuch things as relate to a Horſe's being ſound or unſound, as that which more immediately concerns my preſent province, with ſuch natural defects and imperfections as render Horſes the moſt unfit for common uſe; and ſhall recommend thoſe who would be further inſtructed in ſuch matters to the writings of the Duke of Newcaſtle, and to the works of the French and Italian equeries, who have been very minute in all thoſe parts of Horſemanſhip.

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When a man is about to chuſe a Horſe, if he be never ſo good a judge, yet he muſt be forced to take ſome things upon truſt, unleſs he be allowed a ſufficient trial; for ſeveral defects in a Horſe are of ſuch a nature, that they cannot be eaſily diſcovered till a perſon has had him a ſhort time in his own keeping. If a Horſe has a lameneſs in any part that is eaſily perceived; if a Horſe's Limbs are ſwelled; if he has ſpecks or defluxions on his eyes; if he ſtartles and flies off at the ſight of common objects; if his Feet are ſo plainly bad as to make him go cripling along; if he heaves at his Flanks, and coughs: Theſe, and many more of ſuch-like, are defects that cannot be hid even from thoſe who perhaps know but little of a Horſe. And as to the ſhape and goings of a Horſe, ſome criticize with more judgment, and are leſs guided by fancy than others; but the hidden faults of a Horſe are not ſo eaſily ſeen into: For inſtance, ſome Horſes, when turned ſix or ſeven years old, are ſubject to a dry chronical fixed cough, which comes upon them at uncertain times, perhaps twice or thrice a day, eſpecially when ſuch Horſes happen to catch a freſh cold: Sometimes a Horſe with this malady coughs ſeldom but after drinking; ſometimes one ſhall never hear him cough while he is in exerciſe, but as ſoon as he comes into a ſtable, or ſtands ſtill any time after riding, he falls into a vehement fit of coughing, which often laſts but a little while. Sometimes he ſhall not be heard cough more than any other ſound Horſe for ſeveral weeks; and when the owner is ready to think him recovered, he ſhall fall again into his old way of coughing all of a ſudden, and without any ſymptoms of a freſh cold. As this is a malady that cannot be eaſily cured, and often, tho' not always, endangers a Horſe's wind, ſo it is not eaſily diſcovered by any apparent ſymptoms to the buyer, unleſs by chance he ſees him fall into one of his fits of coughing; for the method that moſt people take to try a Horſe's wind, by pinching the Windpipe, will make any Horſe cough dry and hollow: So that a man by ſuch trial may be eaſily deceived; and there will be but little alteration in the Flanks, unleſs a Horſe be old, or his wind pretty far gone.

The goodneſs or badneſs of the Eyes is another thing wherein the beſt judges are ſometimes miſtaken; for moſt people regard the clearneſs and tranſparency of the eye, which indeed ought to be conſidered; but it is worth obſerving, that Horſes, before they are ſix years old, have not that tranſparency in their Eyes which they arrive at afterwards, becauſe while they are young and growing their juices are viſcid and balſamic; ſo that their Eyes look thicker or clearer in proportion as their blood and juices happen to be more or leſs in a good ſtate. The ſame may be obſerved in all Horſes that have colds when the veſſels of the Eyes are full: The Eyes at that time look thick,

thick and ſometimes inflamed, and a blow on the Eye or a bite will have the ſame effect when there is not the leaſt danger of Blindneſs.

The knowledge of the Eyes.

It is not therefore always the clearneſs of the Eye that denotes its goodneſs, but a Man is alſo to form his judgment from other indications, particularly from the form and manner of the Eye, which includes not only the Body of the Eye but the Eye-Lids, Eye-Brows, and all the parts belonging to it. Many good ey'd Horſes have a heavineſs in their countenance with a Lowering-Brow, yet great numbers of this aſpect go blind with Cataracts when they are about ſeven years old, or between ſeven and eight, and ſometimes later. Theſe are the moſt ſuſpicious where there is a Bunch or fullneſs between the upper Eye-Lid and the Eye-Brow, with a fullneſs round the under Eye-Lid, ſo that the Eye appears as if it was inviron'd in a Ring. Such Horſes are often fleſhy about the Head and Jaws, which upon every cold, or other ſlight accident, expoſes them to defluxions on their Eyes.

When the Eye is extremely flat or ſunk within its orbit, it is always a bad ſign, even tho' there be no defluxion or humour upon it: A ſmall pig Eye is none of the beſt, nor a very large gogling Eye. The one often periſhes for want of nouriſhment, occaſion'd by ſome defect in the Nerves or the Arteries that ſupply it with Blood; the other by being too much expoſed to accidents, and by having too great ſupplies of nouriſhment.

That Eye is almoſt always weak which is of a longiſh oval Figure, eſpecially where the two corners are narrow like the ſhape of an Almond. When the Coat or Membrane that riſes from the under part of the Eye happens to be large and thick ſo as to preſs the Eye-Ball, and the Caruncle or Kernel on the inward corner next the Noſe is ſpungy and moiſt, tho' there is ſometimes a remedy for this defect, yet ſuch Horſes in the end generally go blind.

When the Eyes are bad, the Muſcles or movers of the Eyes are generally weak, ſo if the Eye looks dead and lifeleſs the beſt way of trial is to hold up the Horſes Head in the ſame manner as when a Drench is to be given, which will draw the Eye upwards, and if it remains there fix'd and immoveable, or has a languid motion, it is a pretty ſure ſign the Eye is bad, and this trial will for the moſt part hold good whether the Eye be moiſt or dry.

Some regard the colour of the Eye, which however is different according to the difference of colour in Horſes, and indeed we are ſo far to regard the colour, that if the Iris or circle that ſurrounds the Pupil or ſight of the Eye be diſtinct, and of a pale variegated Cinnamon colour it always denotes a good Eye. For the Iris is always moſt diſtinct where the humours of the

Eye are moſt clear and pellucid, and thoſe Horſes have the beſt Eyes which in colour reſemble the Eyes of a Sheep or Goat, but few Horſes arrive to that perfection of colour and tranſparency till they are at leaſt ſix years old or upwards. On the other hand, if the Iris or circle round the Pupil be of a dark muddy colour, and does not appear diſtinct and variegated till one approaches near the Eye, and if the narrow ſky-coloured Verge (which we obſerve more or leſs in moſt Horſes on the outſide of the Iris) happens to be of a milky hue, it is no good ſign. Nevertheleſs wall-ey'd Horſes have for the moſt part good Eyes.

Some in examining the Eyes have a regard to the colour of the Horſe, which I take to be no ſure way of judging, for as there are good Horſes of all colours, ſo there are good Ey'd Horſes of all colours. The Grey, eſpecially the Pidgeon or Dove coloured Grey, are the moſt ſuſpected, alſo the Iron-Grey and the Dun, &c. But I think I may ſay from Experience, that whatever colour is the moſt common among Horſes ſo as to exceed in number, abounds moſt with bad Eyes. And I have obſerv'd as many bad ey'd Horſes among the Black coach breed as any other.

Most people in examining a Horſe's Eyes lead him under a Gateway, or ſome ſhade, that they may ſee perfectly the colour and tranſparency of the Eye, but the beſt way is to obſerve his countenance when he comes firſt out of a dark ſtable into a ſtrong light; for if he has any weakneſs in his Eyes he will wrinkle his Brow, and look upwards to receive more light; and if the Pupil at the ſame time be large it is a bad ſign; and therefore, the beſt way is to look to a Horſe's Eyes firſt in the ſhade to obſerve the dimenſions of the Pupil, and if that leſſens upon his coming out into a ſtrong light, it is almoſt an infallible ſign that the Eye is good.

Some ſuſpect all Horſes that ſtartle to have bad Eyes; indeed many bad Ey'd Horſes are apt to ſtartle: But a Horſe that ſtares and looks upwards lifting his Feet high when he moves, and as if afraid to touch the Ground, ſuch is more likely to have bad Eyes than one that ſtartles; for many Horſes ſtartle merely out of fear, and I imagine not a few from ſome defect in viſion, *viz.* from ſeeing objects indiſtinctly at ſome diſtance, in all which caſes the Eyes may be ſtrong and durable, tho' many fancy them to be weak. But if a Horſe frequently ſtartles when no object is before him that might cauſe him to ſtartle, we may then ſuſpect his Eyes to be but indifferent.

Upon the whole, that Eye is generally good where the Eyelids are thin, where the outward coat or Tunicle of the Eye is alſo thin and delicate, where the Caruncle next the Noſe is ſmall and dry, where the Eye is tranſparent and ſprightly, when a Horſe has a bold reſolute look, and takes notice

of

of objects without fear. On the other hand, when a Horſe moves his Ears backwards and forwards, and ſeems ſurpriſed at every noiſe or motion of the Hand; when he raiſes his Feet high, is uncertain in his walk or ſtep, and unequal in his goings, when his Eyes appear full and ſwoln with a fleſhy circle round them, or when they are ſunk or flat, or of a longiſh oval figure, when the outward coat is thick and covers a great part of the Eye-Ball, and the Glands or Kernels of the Eye are ſpongy and moiſt, all theſe denote the badneſs of the Eyes, and are often the forerunners of Blindneſs.

The next thing to be regarded in the chuſing of a Horſe is his Feet, that they be good and durable, for bad Feet in a Horſe is like a Houſe that has a weak Foundation, for ſuch an one will do but little ſervice. I ſhall not here take much notice of the defects of bad ſhoeing, or other accidents, for theſe will be treated of in their proper Place, but of thoſe chiefly which are natural to ſome Horſes that expoſe them more than others to lameneſs, or at leaſt makes them unfit for the moſt common uſes, as hunting and travelling.

The knowledge of the Feet is reckon'd more eaſy than that of the Eyes, and I have ſeen many gueſs pretty well of the goodneſs of a Horſe's Feet, without any other examination than juſt to view them as he ſtands or walks. However, I would adviſe no Man to truſt to ſo ſuperficial a judgment, for tho' one may ſee the form and ſhape of the Foot to be fair and promiſing, yet there are other things to be conſidered, without which a good Horſeman may be deceived. The knowledge of the Feet.

A Horſe may have a well made Foot and well proportion'd, and yet if it chance to be thin and weak the buyer will be diſappointed of his expectations, for ſuch a foot is liable to be ſpoil'd in ſhoeing, by travelling on hard ſtony Grounds, by too much drought in hot ſeaſons, or by too much moiſture in winter. A thin Foot is that where the Cruſt or horn is thin. This may be eaſily ſeen when the Shoe is taken off, becauſe the Verge all round the Soal will appear thin, and where it is ſo, a Horſe will winch with the leaſt touch of the Pincers, but as this trial will ſeldom be allowed in buying of a Horſe, the beſt way to thoſe who would be acquainted with ſuch things is to obſerve the bottom of the Cruſt which is generally ragged, and where the Shoe-nails are clench'd and riveted: If theſe be high it is a token the Foot is thin, and that there has not been ſufficient hold for the Nails without driving them a good way upwards in the Cruſt. In a thin Foot the Heel and Frog are alſo apt to be ſoft and tender to the touch, and by reaſon of the weakneſs natural to ſuch kind of Foot, it ſometimes turns awry; and one point of the Heel will ſtand higher than the other, tho' this may be alſo

owing to the crookedneſs of the Paſtern-joints, and will ſometimes happen where the Foot is tolerably ſtrong, but is moſt common to ſuch as have weak Feet, and where it is ſo, the Horſe wears his Shoes more on one ſide than the other, and often cauſes him to cut and go lame in a journey.

As a thin weak Foot is juſtly reckoned a very great defect in a Horſe, ſo a very ſtrong Foot is not always the moſt eligible, but is liable to ſeveral accidents. A ſtrong Foot has the Fibres of the Hoof very diſtinct, and for the moſt part run in a ſtreight line from the Coronet to the Toe, like the grain of Oak Lignum Vitæ, or any other hard wood that eaſily ſplits; and tho' ſome ſuch Feet will laſt very well, and keep free from accidents where ſufficient care is taken to keep them moiſt and pliable, yet when they happen to be neglected upon a long journey, or much hard riding, eſpecially on dry ſtony grounds, or when they ſtand long in a hot dry Stable, they will go lame and tender, at the ſame time that no defect is to be ſeen on the Foot; for when the ſoft parts within are bruiſed by the hardneſs of the Hoof, or by the thickneſs and hardneſs of the Sole, which in all ſuch Feet is like a plate of Iron, and when this happens a Horſe will be in pain, and the true cauſe ſometimes not found out for a long time, which I have known in ſeveral inſtances; nor is it eaſy to reſtore ſuch Feet to a due temperament, as will be ſhewn hereafter.

When a Horſe that has a very ſtrong Foot takes up a Channel-Nail, or happens to be cut into the quick with a ſharp Bone, a ſharp Flint or piece of Glaſs, and a flow of humours follows upon ſuch a wound or puncture, the confinement theſe meet with from the ſtrength of the Foot create much anguiſh, and for want of vent below frequently cauſes an eruption round the Coronet, which proves for the moſt part troubleſome, and makes the cure tedious and uncertain, eſpecially when ſuch caſes happen to fall into bad hands.

I have known ſome Inſtances where the Hoof and the Sole have been quite looſened from all their attachments to the Foot, the Filaments and Fibres that unite the horny part to the Fleſh being all torn and pull'd aſunder by the thickneſs and ſtrength of the Horn, and where this happens in any degree it is apt to leave a tenderneſs behind it, unleſs an uncommon care be taken to prevent it.

But the greateſt inconveniency in a very hard ſtrong Foot, is its being ſubject to Refts and Fiſſures, which cleave the Hoof quite thro' ſometimes from the Coronet down to the bottom, and this kind of Foot is the more eaſily expoſed to ſuch accidents, that the horny Fibres have a more viſible ſtreight direction than where the Foot is more ſoft and pliable; theſe clefts

being

being for the moſt part in the Quarter, ſeldom admit of any other remedy than extirpating the whole piece that lies next the Heel, which defect is from thence called a falſe Quarter, wherein the cure is ſeldom ſo perfect, eſpecially in the fore Feet, as to leave no infirmity or blemiſh behind it. When the Fiſſure or Cleft does not penetrate thro' the Horn, but makes a line on the Surface, it is called a Sand Crack, being very common in ſome ſandy countries, where the Horſes Hoofs turn dry and crack with the heat of the ſand. Theſe are but little regarded where the lines are ſuperficial and not deep in the Horn, and are often cur'd by raſping the Foot, and keeping it cool and moiſt. However it is a defect that muſt leſſen the value of a Horſe, in proportion to the degree of goodneſs or badneſs of his Foot; for when the Foot happens to be otherwiſe bad, theſe blemiſhes often degenerate and are of ill conſequence.

The next defect I ſhall take notice of in the Feet, is of thoſe Horſes that have narrow Heels. Some Horſes Feet are tolerably good even where the Heels are narrow, but when the Foot is hot and inclin'd to rottenneſs, and the Quarters loſe the round turn that they ought to have as they approach the Heel, and look as if they were bent and pinch'd together, inſomuch that the Heels of ſome ſuch Horſes are not above two fingers in breadth, then the Foot is bad; and the way that many take to mend theſe kind of Feet, by hollowing on each ſide the Frog, and thinning the Quarters to cauſe them ſtretch to a wider Shoe makes them worſe; for the ſtretching out the Quarters contracts the Hoof on the Inſtep, and almoſt always turns ſuch Horſes Hoof-bound and wire-heel'd.

But Horſes often grow Hoof-bound from other cauſes, and in ſome it proceeds from the ſhape of the Coffin-Bone, when it happens to be flat or hollow, where it ought to be riſing and round, when the Coffin drops by thinning the Sole too much, and not taking care to ſtay it up with ſtuffing and ſplinters, and from diſeaſes in the Feet that leave a weakneſs and deformity in them. But when a Horſe that has a very ſtrong flinty Foot happens to be hoof-bound, the caſe generally turns out bad. For the harder the Hoof the more it preſſes round the Inſtep and Heel. This preſſure makes the parts all round the Coronet to grow fleſhy and project over the Inſtep, ſo as to be conſtantly bruis'd by the upper part of the Hoof, eſpecially when a Horſe carries any great weight upon him, and by this means in the end ingenders a Quittor, which creeps ſo under the Hoof that it can ſeldom be remov'd without the loſs of a quarter, the ſame as when there is a Fiſſure and cleft, or rather worſe, becauſe of the depreſſion and binding all round the upper part of the Foot with the diſtemperature of the Coronet, which often

often renders ſuch cures both very tedious and imperfect. Therefore this ought to be well look'd into, eſpecially in chuſing a ſaddle Horſe, that his Feet be tolerably ſhaped, ſmooth and cool, not narrow heel'd, nor hoof-bound, neither weak footed, nor too remarkably ſtrong, for moſt Horſes of this latter kind are alſo coarſe and chiefly fit for labour.

Another thing that ought carefully to be look'd into, is that both his fore Feet be of equal ſize, for wherever this defect is the leaſt apparent, tho' it may proceed from a Horſe's uſing one Leg more than the other, as it happens to working Men who uſe the right hand and Arm more than the left; yet when one Foot is ſmaller than the other it is a blemiſh, and carries ſome doubt that ſuch a Foot may in time fail and periſh, even as theſe do that have been hurt by accidents, or after old lameneſſes in the Shoulders, Legs and muſcular parts, where the Foot at laſt periſhes in proportion as the muſcular and nervous parts ſhrink and diminiſh.

Another defect in Horſes Feet, is when they are flat and without depth. If ſuch a Foot happens to be ſtrong and the Hoof ſmooth, if the Sole be alſo firm, and the Frog no ways rotten or fleſhy, ſuch a Horſe will indure the Roads tolerably well. But when a flat Foot is ſhap'd like an Oyſter, has many rings or wrinkles, if the Soal be ſoft, and the Frog fleſhy and ſpungy, it is a very great defect. Some Horſes are ſo remarkably faulty in this reſpect, that the Frog bunches out beyond the bottom Cruſt of the Hoof, that their Shoes muſt be made hollow, and the Plates ſo broad as almoſt to cover the whole bottoms of their Feet, to keep them from the Ground. But indeed ſuch Horſes are only fit for draught, and not for the Saddle.

Some Horſes have tolerably good Feet, only that their Heels are low. Horſes that have long yielding Paſterns are the moſt ſubject to this defect, and alſo thoſe that have their Paſterns very ſmall, ſhort, and ſtanding almoſt quite upright, theſe have generally long Heels and flat Feet, and their Fore-Legs coming ſtreight down from the Shoulder to the Foot, without any bending of the Paſterns, and for this reaſon are frequently call'd Goat Leg'd. Many of the Horſes bred in the Fens are of this kind, have but an aukward uſe of their limbs and make very bad travellers, and thoſe low heel'd Horſes which have very long yielding Paſterns, are apt to have their Heels wear quite to nothing upon a Journey, and all the care imaginable in ſhoeing cannot prevent it.

A very high Heel is another extreme which greatly leſſens the value of a Horſe, for even where ſuch a Foot happens to be ſtrong and ſmooth, it is nevertheleſs, the cauſe of unſteadineſs in a Horſe's going, expoſes him often to trip and ſtumble, to ſprains in the Coffin and Paſtern Joints, &c.

THERE is one kind of Horſe eſpecially among the coach and cart breed very remarkable for a large deep Foot; the Horn extremely thick and ſcaly, the Heels broad and mouldring, and are apt to grow ſo very faſt, that the Farriers when they go about to ſhoe ſuch Horſes, thinking to eaſe them of their great load, and to bring their Feet into a better ſize, pare and raſp them to ſuch a degree, that they leave their Feet much larger about the Coronet and Inſtep than at the bottom, ſo that they always look as if they went upon Pattens, which is not only very ugly, but ſuch Horſes are ſeldom good for much.

A very large Foot of any kind is to be avoided in a Horſe, even ſuppoſing it to be in itſelf firm and good. But when I ſpeak of a large Foot, I mean only when it is diſproportion'd to his other parts, for a large Horſe muſt of courſe have a larger Foot than a ſmall one. But when we ſee the Foot large and the Limb ſmall, in all ſuch it muſt be obſerved by thoſe who have experience, that the Bones and Sinews are alſo ſlender, which not only denotes weakneſs, but heavineſs and inaptitude to any briſk and vigorous action, and are therefore unfit for the Coach or Saddle, but to draw in a Cart or Waggon or to carry a Burden.

SOME object greatly againſt white Feet as being generally worſe than thoſe of any other colour. Indeed when a Horſe has too many of his Feet white they do not always prove the beſt, yet I have ſeen white footed Horſes have their Feet ſuch as the ableſt Judges could not find fault with. When a Foot is ſmooth and tough, of a middle ſize without wrinkles, neither too hard and brittle nor too ſoft, and when the Heel is firm, open, and no ways ſpungy or rotten, and the Frog horny and dry, and the Sole ſomewhat hollow like the inſide of a Diſh or Bowl, whatever be the colour, ſuch a Foot will for the moſt part turn out good, tho' the dark or black Hoof where it reſembles that of a Deer is generally the beſt; and for this reaſon thoſe who are the moſt curious about a Horſe's Feet, do not chuſe ſuch as have much white upon their Legs and Paſterns, to avoid their having too many white Feet.

THE next thing to be regarded in a Horſe is his Shoulders, that they are not too much loaded; for a Horſe that has heavy Shoulders can never move well; on the other hand, one that has very thin Shoulders with a narrow Cheſt or Boſom, tho' he may move briſkly while he keeps ſound, yet ſuch Horſes are generally weak, and the moſt eaſily lam'd in their Shoulders of all others. A narrow cheſted Horſe turns his Elbows inwards towards his Briſket, and his Toes outwards, croſſes his Legs in travelling, and ſometimes

The knowledge of the Shoulders.

cuts himſelf, and theſe ſort of Horſes by their unſteadineſs are as apt to trip and ſtumble as the Horſes that are thick ſhoulder'd, tho' they do not ſo eaſily come down; in the main they are of leſs value, for if they happen to get lame they are fit for nothing, being weak and ſlender; whereas thick ſhoulder'd Horſes are generally ſtrong, and if any accident happens that renders them unfit for other uſes, they will ſerve for a Waggon or Team, but a heavy-ſhoulder'd Horſe at beſt, is neither fit for the Saddle, nor for a Coach, nor indeed for any thing that requires expedition.

But that the Reader may underſtand what I mean, by a heavy-ſhoulder'd and thick-ſhoulder'd Horſe, it will be neceſſary to obſerve, that ſome Horſes have their Shoulders full, and yet no ways loaded; and when this proceeds only from the largeneſs of the Bones and Muſcles, and when theſe are firm, and not looſe and flabby, ſuch Shoulders will be ſufficiently pliable. All the Barbary Horſes I have ſeen are of this kind, and yet moſt of them have mov'd well in their natural ſhort quick action. But when the Shoulders are loaded with Fleſh, and the Breaſt or Boſom is alſo fleſhy; the Muſcles in this caſe are generally clog'd, which being the inſtruments of motion, ſuch Horſes can never ſtep out with freedom, but as if they went upon Stilts: But the worſt ſort of all others, are thoſe where the Breaſt projects and hangs over, ſo that the fore Legs are placed backwards, and appear as if they were ſtuck into a Horſe's Briſket. A Horſe of this make is the moſt dangerous of all others to the Rider, for when he ſtumbles it is ſcarce poſſible to recover him from falling, becauſe of the backward poſition of his limbs, and the load that lies forward upon his Breaſt; and therefore ſuch are abſolutely to be rejected.

Some Horſes are greatly charg'd with Fleſh, or rather may be ſaid to be groſs upon the top of their Shoulders and all over their Withers, which however is more an inconveniency than any hindrance to their motion, beſides that this fleſhineſs often abates with exerciſe. It is a blemiſh more to be obſerved in Colts and young Horſes before they have been hous'd and broke than afterwards. We daily ſee Horſes of this kind whoſe Shoulders in all other reſpects are flat and finely made, and move almoſt as well as thoſe that have no ſuch defects.

It may be obſerved, that ſome thick-ſhoulder'd Horſes have alſo very thick ſhort Necks: Theſe are uſually the moſt fleſhy of all others, and are worſe than thoſe that are thick ſhoulder'd, and at the ſame time ſmall and ſlender neck'd, having this additional ill quality, that they are almoſt always heavy upon the hand, and as themſelves are ſoon tir'd, ſo they ſoon tire their Riders.

The knowledge of the Shoulders is a thing very material in the chooſing of a Horſe, becauſe his good or ill Going depends ſo much upon the make and placing of his Shoulders, tho' thoſe who have had the greateſt experience will never fix upon a Horſe meerly from the ſhape of his Shoulders, becauſe in this reſpect the beſt judge may be miſtaken, unleſs at the ſame time he ſee him move with eaſe and freedom. Sometimes Horſes that have fine Shoulders move but indifferently, which may be owing to an over great length of their Limbs, humours caus'd by undue exerciſe or other accidents, and therefore the beſt way to judge is from the motions of a Horſe, make him go at ſome little diſtance, and obſerve whether there is a correſpondence and harmony between the motion of the Shoulders and the motion of the Limbs, for if the Limbs do not harmonize with the Shoulders, but the motion ſeems to be more in the Limbs than the Shoulders, it is a plain Indication that ſuch a Horſe muſt want freedom in his Shoulders; but when the Shoulders, Knees and Paſterns all act together in concert, and have but one ſpring of motion, then the Horſe may be ſaid to move well and with freedom.

Limbs. The next thing to be conſidered is the Limbs, which ought to be free from Splents and Windgals. The Splents that grow on the flat part of the Shank Bone are of little conſequence, otherwiſe than that they are an Eyeſore; but when a Splent is ſituated near the Knee Joint, or below near the Paſtern, it may indanger lameneſs, and if a Horſe does not go downright lame with it he will be exceeding ſtiff, eſpecially after riding, but when the Splent Splents. lies on the inſide between the Bone and the Sinew, that Horſe is in danger of incurable Lameneſs, and his caſe is the worſe, that ſuch a Splent cannot be eaſily remov'd without hurting the Sinew.

Windgals. Windgals are little looſe flatulent Tumours, containing no ſuppurated matter within them, but a very little Moiſture and Air. They are generally ſituated on each ſide the back Sinew towards the Heel, ſometimes on the fore Legs, but moſt frequently behind, and ſometimes both before and behind, and are moveable to the touch. The ſame kind of Tumours are often met with about the Knees and Hocks, but then they are always attended with Lameneſs. When they come in the Hocks they are generally attended alſo with a blood Spavin or Variſſe, as the French more properly term it, but wherever they happen to be, they muſt leſſen the Horſe's value exceedingly, being either the effects of weak Limbs, or very hard riding and abuſe.

The Limbs ſhould therefore be clean free from Splints and Windgals, the Knees ſhould be ſtreight and not bending: It is always a ſign of ſtrength and activity when the Shin and Shank are thin, the back Sinews ſtrong and

well brac'd, with a perceptible diſtinction between the Sinew and the Bone, ſo that the ſmall of the Legs be not of too round a make, but according to the Jockey's terms flat and lathy. The Paſtern-joints clean, eſpecially the lower Paſterns, that they be free from Ring-bones and other ſwellings near the Coronet, which are ſometimes of ill conſequence. The Hocks ſhould alſo be lean and dry, free from Curbs, Spavins of all kinds, and from Puffs and flatulent Swellings, which upon every alternate motion, or upon the preſſure of the Finger ſhift from ſide to ſide, for all theſe are great faults in a Horſe that cannot be eaſily remedied.

The Carcaſe.

THE next thing to be conſidered is the Body or Carcaſe, which ought not to be too ſmall and ſlender; for a ſmall carcaſs'd Horſe is generally weak. On the other hand, a very large carcaſs'd Horſe proves often heavy and unactive, and when he happens to be underlimb'd, it is reckoned a great Fault, tho' I have known this remark oftentimes fail, and Horſes that have been reckoned very much under-limb'd, prove as ſtrong, and fully as ſerviceable as any other.

A low Back is another fault that almoſt every body complains of, and betokens weakneſs, tho' a moderate ſinking below the Withers is not at all amiſs when the Back is otherwiſe ſtreight. When this ſinking is to no extream the Forehand generally riſes well. But when a Horſe has a low Back and is higher behind than before, it is not only ugly, but ſuch Horſes are generally weak, are apt to be pinch'd in their Shoulders, and have an aukward way of going, which is owing to the heavineſs of their hind parts which hinders them getting on.

SOME are fond of Horſes that are home rib'd, which indeed is a Property that denotes both Beauty and Strength, as thoſe that are open rib'd are looked upon to be weak and looſe; but in ſome Horſes the ſhort Ribs approach ſo near the Haunches, that they have ſcarce liberty to breath, and ſuch Horſes are the moſt out of Wind of any other when put upon hard exerciſe, and eaſily go broken winded, as I have often obſerved. But a Horſe that is open and looſe in his Flanks like a Greyhound, is liable to many diſadvantages which would be too tedious here to relate, ſuch are always narrow over the Chine, have little or no Belly but what is forced by art and feeding, and tho' we find ſome of this kind more vigorous than others, and even exceed all expectation, yet the generality of ſuch Horſes are ſeldom fit to carry a great weight, or to hold out in hard riding. Some are great admirers of ſhort back'd Horſes, which is a right way of judging ſo far as this ſtands in oppoſition to a very long Back. But ſome Horſes Backs are ſo very ſhort, notwithſtanding they are otherwiſe of a good ſize, that they ſeem to be drown-

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ed under common Furniture. But when a tall Horſe happens to have a ſhort Carcaſe, and very long Legs like a Spider, ſuch a Horſe is ſeldom good for much. If a Horſe's back be ſhort, his whole Body and Limbs ought to be ſhort, and then it denotes ſtrength and firmneſs, but moſt of theſe make but a ſlow progreſs on a Journey, tho' they will indure and hold out as long as any other, unleſs they be urg'd on with Horſes of greater ſpeed.

It always denotes ſtrength in a Horſe when his Carcaſe is of a moderate ſize. His Ribs large, his Flanks not hollow but ſmooth and full, with a ſtreight Back, or but a very little ſinking, his hind Parts or uppermoſt Haunches not riſing higher than his Shoulders. A Roach Back, *viz.* where a Horſe's Back is a little arch'd behind the Saddle, tho' it adds no great beauty to a Horſe, many of this kind being alſo flat rib'd, yet they are for the moſt part ſtrong and durable, and often prove fit both for hunting and the road.

A Horſe's Wind to be regarded.

Another thing to be regarded in a Horſe is his Wind, which may eaſily be known by the motion of his Flanks, and ſome other ſigns. Many Horſes breathe thick, and yet are not broken winded. A thick winded Horſe fetches his Breath often, and ſometimes rattles and wheeſes. This will happen to any Horſe that is foggy and foul fed without ſufficient exerciſe, eſpecially to Horſes that are newly come off rank Paſture where they have lain long. But if a Horſe has been in good keeping and had due exerciſe, and yet theſe ſymptoms appear, it is to be ſuſpected there is ſome defect either accidental or natural, ſuch as a narrow Cheſt, or ſome obſtinate cold that has contaminated his Lungs: This ſymptom ſometimes happens to Horſes that are rib'd home too cloſe, which will cauſe ſuch to be ſhort breath'd when they are hard rid. But a Horſe ſeldom comes to be thoroughly broken winded till he is ſeven or eight years old, the reaſon of which I ſhall give hereafter, when I come to treat of thoſe Maladies. In the mean time I ſhall obſerve, that the beſt way to know a broken winded Horſe, is to obſerve his Flanks while he ſtands quiet in the Stable. A broken winded Horſe always pinches in his Flanks with a very ſlow motion and drops them ſuddenly, which any one with a little obſervation will eaſily perceive, and when very bad, coughs vehemently and often farts, with a continual working in his Fundament, his Noſtrils alſo work as if he was in a Fever, and yet no ſymptoms of great heat and inflammation, and ſeldom any abatement in his appetite. Theſe are the ſureſt ſigns to know a broken winded Horſe. In other caſes when a Horſe is only thick winded from any accident or natural defect, the beſt way to find that out, is to put him into briſk exerciſe, and he will ſoon diſcover his infirmity.

Other Defects in Horſes to be obſerved.

I need ſay nothing of the Glanders, becauſe few Horſes are offered to ſale with this Malady. However one ſhould always feel under a Horſe's Jaws, that he be free from inflated Kernels, eſpecially if he be turn'd of ſeven years old, for at that time there is danger, even tho' there be no running at his Noſe. But looſe moving Kernels are very common to young Horſes when they happen to catch cold, eſpecially thoſe that have never had the Strangles. Nevertheleſs theſe ſymptoms are eaſily removed, except when the Kernels are fixed to the Jaw Bone, and then they are to be ſuſpected.

There are many other defects that may be taken notice of in Horſes, both with reſpect to their ſhape and their action, which very much leſſen their value. A Horſe that has a large fleſhy Head, with a groſs thick Neck, will always go heavy on hand, as I have already hinted. Leaf-ear'd Horſes that have broad dangling Ears like the Leaves of a Bay-Tree, are altogether ungraceful, and have much of the Cart Breed. A Horſe that has a Deer or Stag's Neck, that is when it bunches out with a ſemicircle before, and ſinks on the Creſt where it ſhould riſe higheſt, is not only ugly but unpleaſant to the Rider, and the Horſe Courſers are apt to ſay of ſuch Horſes, that their Necks are turn'd the wrong ſide upwards. A Gooſe Rumpt Horſe has much of the Cart Breed, and is for the moſt part ſtubborn and ſluggiſh. A Horſe that has his Hocks diſtant and very wide ſeldom moves well, but is apt to cut and ſhave by croſſing one Leg over the other. On the other hand, a Cat-ham'd, or Batle-ham'd Horſe as ſome term it, *viz.* where the Hocks approach near together, and the Feet ſtand out wide and ſtradling, will always appear with a remarkable meanneſs, if his other parts are never ſo well moulded, beſides that it often denotes weakneſs. Fleſhy leg'd Horſes are uſually ſubject to the Greaſe, and other Infirmities which I ſhall not here ſtay to mention.

The Tempers of Horſes.

The Temper of a Horſe is what ought alſo to be regarded; becauſe if a Horſe's Temper be good it very much enhances his value, whereas if it be vitious it expoſes him to many accidents. A ſullen ill-condition'd Horſe indangers every one that comes near him; and very often will not ſpare his beſt friends. Some are only enemies to Men, but with other Horſes are tractable and quiet. Theſe have not always the moſt true Courage, as I have often obſerv'd. They are continually in motion when any one approaches towards them, expecting to be drub'd, and are therefore in a conſtant ſtate of enmity and defence. Others are quiet and tractable to Men, and yet are ſo miſchievous to other Horſes, that they will ſcarce ſuffer any one to come within their reach. Many of this ſort have true metal and courage, but expoſe both themſelves and other Horſes to kicks and bruiſes, which prove troubleſome

ſome, and ſometimes expenſive to the owner, whereas a Horſe of the trueſt courage is uſually the beſt temper'd, loving to his Maſter and Keeper, and never ſhews his Metal compleatly, but when he is urg'd on by ſome noble incentive, *viz.* in a Chaſe or running March, where there are other Competitors; or when he carries a good Horſeman, he will then diſcover a ſort of complacency, and ſeem to act every way in concert with his Rider. But the Reader will be apt to queſtion, how it is poſſible for any one to find out the Temper of a Horſe without trial. It muſt indeed be confeſſed, that a Man who has had but ſmall experience, can know but very little of the Temper of a Horſe, and even thoſe who have had the moſt experience, can only gueſs upon a ſuperficial knowledge of a Horſe, ſo as ſometimes to avoid buying ſuch when they are offered to ſale; for ſome Horſes are exceeding ſly and ſubtil, will ſhew but little of their Temper when they are cautiouſly handled, and yet will ſteal every opportunity to do miſchief, as all who have been us'd much among Horſes muſt have frequently obſerved. A vitious Horſe generally lays back his Ears cloſe to his Pole, tho' this is not always a ſure preſage of Vice, for ſome very harmleſs Creatures lay back their Ears merely out of tickliſhneſs, or from a playful diſpoſition, but at the ſame time he puts back his Ears will look pleaſant with his Eyes, and with his Mouth catch hold of the Crib, whereas a vitious Horſe at the ſame time he lays back his Ears ſhews the white of his Eyes, and looks ſullen and dogged. Some vitious Horſes have a plain manifeſt Frown, which they diſcover at all times and give their Countenance ſuch an angry Aſpect, as will eaſily enough be diſcovered by thoſe who have been us'd among Horſes. Beſides ſuch Horſes always ſtand as it were in a poſture of defence, having their Heads rais'd and lofty, and one of their hind Legs advanced forwards reſting upon the Toe, ready to laſh out at the firſt Perſon that offers to come near them, and this may further be obſerved of a very vitious Horſe, that he never will give a pleaſant look even to the Perſon that feeds him.

Fear is another ingredient in a Horſe's Temper, that muſt very much leſſen his value. A fearful Horſe both indangers himſelf and his Rider, more than a vicious Horſe that has Courage. Almoſt every day affords us inſtances of People being hurt, and ſometimes killed by fearful ſtartling Horſes, and many ſuch Horſes are utterly ſpoil'd and ruin'd, by the accidents their Fear expoſes them to. Beſides that Fear in a Horſe is hardly ever to be overcome until he grows very old and uſeleſs, or when he happens to be continually harraſs'd with travelling, in the conſtant view of all manner of Objects, and even then any thing new and uncommon will ſtill revive his natural

tural Temper and Diſpoſition. A fearful Horſe may be often known at firſt ſight by his ſtartling, crouching and creeping.

A Horſe that is very hot and fretful is no leſs to be avoided. But here I would diſtinguiſh between an eager craving Horſe, that ſtrives to be the firſt in the Chaſe, the foremoſt in the Field, and one that goes always upon the fret, which is properly what I mean here by a hot Horſe. The one goes out calmly, and never ſhews his metal till a proper opportunity offers. He has thoſe qualities that reſemble prudence and courage, the other intemperate heat and raſhneſs. A hot Horſe begins to fret the moment he comes out of the Stable, and continues in that humour till he has quite fatigu'd himſelf, which for the moſt part ſoon happens. Such Horſes are not able to endure much hardſhip, being for the moſt part but poor feeders, and when they come to go a journey they ſoon loſe their Fleſh, have a carion-like look, and ſeldom perform it without intervals of reſt. They rarely laſt long, for this temperature expoſes them to many accidents and diſeaſes.

A dull heavy flegmatick Horſe, is the very reverſe of one that is hot and and fiery, and his qualities are eaſily known, notwithſtanding all the arts of the Dealer to put life and ſpirit into him. A ſharp pair of Spurs, the frequent cracking of the Whip, a Stimulus under his Tail, will cauſe him to ſhew ſomewhat of metal, and carry himſelf to the beſt advantage; but ſtill any tolerable judge will eaſily perceive that all his action is forced, and no ways natural. He moves as if he was in a hurry, and yet with many tokens of heavineſs. Nevertheleſs ſome ſuch Horſes are of more real value, and laſt much longer than thoſe that are hot and fretful, becauſe they are ſeldom hurt with labour, nor expoſe themſelves much to accidents, and if they prove unfit for the Saddle, may be ſerviceable for many other purpoſes.

Crib-biting. THERE is another ſort of Vice, or rather ill Habit to which many Horſes are addicted, which ought alſo to be avoided in chooſing a Horſe, and with which I ſhall conclude this part of my Subject, and that is Crib-biting, or the Tick as ſome call it, *viz.* when Horſes catch hold of the Edge of the Manger, ſuck in the Air and ſwallow it down in gulps, till they are ſometimes ſo full that they are ready to burſt. Some do it only on their Collar Reins, and ſome on every Poſt and Gate they can come at. This Vice is more common in London than any where elſe, and may either come upon Horſes from very low feeding, while they are young and have craving Appetites, or perhaps by ſtanding much at the Crib while they are ſhedding their Teeth, for then their Mouths are hot and their Gums tender and itching, which may readily make them ſuck in the Air to cool their Mouths; but young

young Horſes are the more apt to imbibe this ill habit, when they ſtand next thoſe that crib, for I have often obſerved young Horſes take it by imitation, tho' I have alſo known abundance take to it, that have neither been in the ſight or hearing of any other: This is a Vice in a Horſe that cannot be eaſily hid, for he does it openly in his Stall, even tho' he may have been often beat for it. But the beſt way when one looks into a Horſe's Mouth for his Age, is to take notice that his fore Teeth are not worn, for if they be worn, it is a ſign he Cribs, and when a Horſe has been long accuſtomed to this Vice, the Teeth will not meet in ſome places by the breadth of one's Finger. The Coach Breed are the moſt ſubject to it, and a Horſe never loſes this ill Habit during his whole life, and indeed all the methods hitherto uſed to break it have proved ineffectual. Horſes that crib are but of ſmall value, they drop a great part of their Food unchew'd, which makes them almoſt always look lean and jaded, with a ſtaring Coat, and conſequently few of them are able to indure much labour, beſides that they are frequently ſubject to the Gripes and other Maladies, which are owing to their continual ſucking and filling themſelves with Air.

CHAP. IV.

Of the Shape and Make of a HORSE, and how his Parts ſhould be framed in order to appear comely and beautiful, with ſome Obſervations on the Colour and Marks of HORSES.

THO' the moſt experienc'd Horſemen are not always agreed in ſome points relating to the Shape, Make and Goings of a Horſe, yet they almoſt always accord in this, that there ought to be a juſt proportion in all his Parts. That even when he is taken to pieces, and examined ſingly in his particular Members, tho' ſome defects may appear, yet when they all bear a juſt correſpondence one to another, and concur in ſuch manner as to render his action eaſy, juſt and regular, ſuch a Horſe cannot be greatly diſagreeable, but will for the moſt part move well, and with a tolerable good grace. On the other hand, ſuppoſe a Horſe has ſome parts exquiſitely fine, and others indifferent, which frequently happens, it will mar his beauty, and cauſe him to look diſagreeable, and for the moſt part affect his Gate and Action.

In order to have a Horſe beautiful and finely made, it has been agreed on all hands, that his Head ſhould not be long nor too large, rather lean than fleſhy. His Ears thin and narrow, and of a becoming length, well ſet on, pointing inwards. His Brow or Forchead not too broad and flat. His Noſe ſomewhat riſing and of a good turn, his Noſtrils wide and thin, his Muzle ſmall, his Mouth neither deep nor too ſhallow, with a Star or Snip down his Forehead, or a Blaze which is no ways unbecoming, unleſs it be too large and diſproportion'd. Horſes that are thus mark'd, have generally one or more of their Feet white, which is alſo very beautiful and looks lively. His Jaws ſhould be thin and ſufficiently wide, not approaching too near together, nor too high upwards towards the onſet, that he may have ſufficient room to carry his Head eaſy and in good place. His Eyes well formed, ſprightly and of a middle ſize. His Neck ſhould be arched towards the middle, ariſing by a beautiful gradation out of his Breaſt and Shoulders, the Muſcles thereof diſtinct, but no where overcharg'd with Fleſh, growing ſmaller and thinner as it approaches towards his Head. His Shoulders ſhould be thin from the Withers, with a gradual inlargement downwards, that his Boſom or Breaſt be not too narrow nor too groſs. His Fore-Legs ſtreight and well placed: His Joints lean and bonny: His Knees not bending, and his Paſterns not too long: His Feet round and ſmooth, and his Sinews firm and well braced: His Carcaſe rather round than flat: His Back not too low, and for ſtrength and durableneſs pretty even and ſtreight. His Ribs rather home than open as they approach towards his Haunches: His Britch round, and the Muſcles not too fleſhy but diſtinct: His Hocks or Gambrels neither ſtanding too wide, nor too near together: His Hocks ſhould be lean and no ways puffed or fleſhy: His Paſterns ſhort, his Legs flat and thin, and his Tail ſet on in a good place, rather high than low, riſing upon every motion of his Body. The more theſe properties concur in any Horſe the more beautiful he muſt be, eſpecially when they correſpond and agree in due proportion one to another; and the more a Horſe is wanting in theſe, the more plain and ordinary he will appear.

The Marks and Colour of Horſes.

I ſhall now proceed to ſay ſomething concerning the Marks and Colour of Horſes, ſeeing ſo much of the beauty of a Horſe depends upon his being well mark'd and of a good colour; and alſo becauſe his good or bad properties are ſometimes denoted from his being of this or that Colour, or his having ſuch and ſuch Marks. Tho' indeed theſe ſignatures are not always to be depended on, for daily experience teaches us, that however true theſe Obſervations may prove in the main, yet we often meet with good Horſes that

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are very ill mark'd and of bad colours, and ſometimes very bad Horſes, that have almoſt all the beauty that colour and marks can give them. However, it is neceſſary for thoſe who have any concern among Horſes to be more or leſs acquainted with ſuch things.

The principal Colours of Horſes.

THE chief and principal Colours are the Bay, the Cheſnut, the Black, the Brown, the dappled Grey and Sorrel. For the White is for the moſt part originally Grey, and turns ſooner or later into White, as his Limbs happen to be lighter or darker; for the Light Grey Colts that grow the ſooneſt White, have generally little or no dark mixture about their Joints.

The Bay.

THE Bays, perhaps ſo called from their reſembling the Colour of dry'd Bay Leaves, are of various degrees, from the lighteſt Bay to the dark, that approaches the neareſt to the Brown, but always more ſhining and gay. The bright Bay is an exceeding beautiful colour, becauſe a bright Bay Horſe has often a reddiſh daſh, with a gilded aſpect, his Main and Tail black, with a black or dark Liſt down his Back. Alſo the middle colours of Bay have often the black Liſt with black Main and Tail. And the Dark Bays have almoſt always their Knees and Paſterns black, and we meet with ſeveral ſorts of Bays, that have their whole Limbs black from their Knees and Hocks downwards. The Bays that have no Liſt down their Backs, are for the moſt part black over their Reins, which goes off by an imperceptible gradation from dark to light towards the Belly and Flanks. Some of theſe incline to a Brown and are more or leſs dapled. The Bay is one of the beſt Colours, and Horſes of all the different kinds of Bays are commonly good, unleſs when accidents happen to ſpoil them while they are Colts.

The Cheſnut and Sorrel.

THE true Cheſnut is generally of one colour, without any ſhade or gradation: His Hairs are often compounded of three colours, the Root light, the middle dark, and the Points of a pale brown, which makes an agreeable mixture, and differ from the Sorrel in this, that the mixture of the Cheſnut is not ſo diſtinct and apparent to the Eye, eſpecially at any diſtance, becauſe the Hairs of the Sorrel are often of ſeveral colours intermix'd, wherein the red or Fox colour generally predomine. Many cheſnut Horſes have their Manes and Tails very near the colour of their Bodies; many of them have but little White about their Legs, and frequently no mark, whereas the Sorrel have generally a good deal of White about their Legs and Paſterns; many of the Sorrels have a large Blaze, and not a few are bald all over the Face, while their Manes and Tails are ſandy or of a flaxen Colour. Both the Cheſnut and Sorrel are of degrees darker and lighter, and I have ſeen ſome Cheſnut Horſes with Manes and Tails as light as the Sorrel, and the

Hair all over their Bodies approaching towards a fallow Colour, only with a ſort of beautiful Cheſnut ſtain. There are many good and beautiful Horſes both of the Cheſnut and Sorrel; but the latter when they have much White about their Limbs, are apt to be more faulty in their Feet, than thoſe that are more uniform in colour, and they are alſo apt to be more tender in conſtitution. When a cheſnut Horſe happens to be bald or party colour'd, or to have white Legs, which may be owing to ſome extraordinary affection in the Dam, or ſome improper mixture in the Breed, ſuch Horſes are not very agreeable, for Cheſnuts are the leaſt tainted in their colour of any other, and moſt people prefer the Cheſnut to the Sorrel, both in point of beauty and goodneſs.

The Brown.

THE Brown is a colour not altogether ſo beautiful as the Bay or Cheſnut. Horſes have alſo their Degrees, ſome being light and ſome very dark. They have almoſt all black Manes and Tails, and often their Joints are black, tho' not ſo ſhining as the Bays, but ruſty. Almoſt all brown Horſes grow gradually lighter towards their Bellies and Flanks, and many are light about their Muzles. The moſt beautiful are thoſe that happen to be finely dapled, for the plain Brown are eſteem'd more ordinary. Many of them are coarſe, but ſtrong and ſerviceable, fit for draught, for burden, or for the wars.

BLACK Horſes are very beautiful, eſpecially when they are of a jet ſhining black and well mark'd, and have not too much White. For as a great deal of white, eſpecially when it ſpreads round their Eyes, and a great way up their Legs, adds nothing to their beauty, ſo neither does it add any thing to their goodneſs. The Engliſh black Horſes have more white, than the black Horſes of any other Country. I have known many fine Spaniſh Horſes, ſome Arabs and one Egyptian (the only one I ever ſaw of that Country) all without any white, and the Dutch and Daniſh Horſes ſeldom have much; tho' a Star or Blaze, and ſometimes a white Muzle, and one or more of the Feet tip'd with white, always looks beautiful and lively, and is no diminution to the goodneſs of a Horſe, but moſt think an addition, from an opinion that Horſes without Mark are generally ſtubborn and ill-conditioned. Some black Horſes have brown Muzles, are browniſh on their Flanks and between their Hips. Theſe are often called black Browns, as they are not a perfect Black, but approach near to the colour of a tawny black Hound; ſome are of a lighter colour about their Muzles, and are call'd mealy-mouth'd Horſes; and of this ſort are the pidgeon-ey'd Horſes, which have a white Circle round their Eye-Lids, and their Fundaments often white. But after all, I have found many of the Engliſh black Horſes, eſpecially of the largeſt breed,

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not ſo hardy as the Bays and Cheſnuts, &c. Thoſe that partake moſt of the Brown, are generally the ſtrongeſt in Conſtitution.

The Greys are ſo diverſify'd in colour, and ſo common and well known, that it would be a needleſs curioſity to deſcribe them particularly. The dapled Greys are reckoned the beſt, and are to be found in moſt parts of the World. The Silver-Grey is extremely beautiful, and many of them very good. The Iron-Grey with light Mane and Tail have alſo a gay appearance, but are not accounted the moſt hardy. The light plain Grey and the Pidgeon colour'd Grey, ſoon change and turn white, as all other Greys do in proceſs of time. The dapled Grey keeps his firſt colour the longeſt, which is a ſign of ſtrength and durableneſs. Some of them I have known pretty old before they have chang'd, and never ſo perfectly as not to retain ſome veſtiges of their native colour. The Nutmeg-Grey where the daples and other mixture participates of the Bay or Cheſnut, is not only exceeding beautiful, but moſt of the nutmeg-coloured Horſes turn out very hardy and good. The Grey.

The Roans are a mixture of various colours, wherein the white predominates. Many of them turn out much better than they appear to be. Some are exceeding good, and thoſe that have a mixture of the Bay or Nutmeg colour are ſometimes tolerably handſome and beautiful. The Roans have a general reſemblance to each other, and yet a very great diverſity: Some are ſo ſtrew'd over with white, as if they were powder'd or duſted with Flour, and ſome as if Milk had been ſpilt all over their Buttocks. Others as if they were powder'd with Soot or Lamp-black, and ſome as if their Faces had been dip'd in a bag of Soot. Many of them are good road Horſes and hardy, which has encouraged this Breed more of late than uſual; and I have ſeen ſome Roans from abroad that have look'd very well in Furniture. The Roan.

The Strawberry approaches pretty near the Roan in ſome things, but in moſt reſembles the Sorrel, being often mark'd with white on his Face and Legs, which we ſeldom obſerve perfect without mixture on the Roan. The bay mixture in the Strawberry is alſo of the higheſt colour, and makes him look as if he was tinctur'd with claret; ſome of this ſort are both handſome and good, but are not very common. The Strawberry.

The Fallow colour, the Dun and the Cream colour, have all one common reſemblance, and moſt of them have a Liſt down their Backs, with their Manes and Tails black. The Mouſe Dun and Lead colour are the moſt ordinary, and becauſe the Liſt down their Backs goes off with a ſoft imperceptible ſhade like what we obſerve on the back of an Eel, are from thence called Eel-back'd; few people chuſe Dun Horſes, tho' I have known Horſes The Fallow and Dun, &c.

of this colour prove uſeful in the hands of country People. The Fallow and Cream colour'd Horſes are many of them both good and beautiful. Thoſe are generally the beſt, that beſides their Manes and Tails have their Muzles and their Joints black or cheſnut, and their Colour a little inclin'd to cheſnut; tho' I have known ſome with Manes and Tails of a Silver colour, not only extremely beautiful, but very good and uſeful. The fallow and tawny Duns are often ſhaded with a darker colour, and ſometimes faintly dapled, and look very fine in a ſet, when they happen to be well matched.

THERE are many other colours of Horſes produced out of the great diverſity that are to be met with every where, which would be endleſs and of no great uſe to deſcribe, as the Peach colour, Starling and Flea-bitten, &c. and all theſe participate more or leſs of ſome of the Colours already mention'd. I ſhall only farther take notice, that ſometimes Horſes turn out very finely ſpotted, ſome like Leopards or Tygers, ſome like Deer, with black, red, yellow, or other gay Colours, and when theſe happen alſo to be comely in ſhape and appearance, they are generally reſerv'd as preſents for Princes, or other great Men, tho' perhaps more for their ſingularity than any ſuperior excellency in them. Others again are ſo diſagreeably diverſify'd in their Colours, and in ſuch a remarkable manner, that no Gentleman would care to be ſeen upon their Backs, or even ſuffer his Servants to make uſe of them; wherefore ſuch are uſually condemn'd to the meaneſt drudgery, and no properties they can have, will be ſufficient to recommend them to any other uſe.

The Marks. As for Marks, I need ſay but little concerning them, after what I have already hinted, in deſcribing the Colours. Some have reckoned Horſes to be lucky or unlucky, as they happen to be this or that way mark'd, but I believe few Perſons in our times are ſo ſuperſtitious as to regard ſuch things. Others have been ſo curious as to lay much ſtreſs upon them, and to denote all the good or ill qualities of a Horſe from his Marks; but as I can ſay little of this from experience, I ſhall therefore only take notice, that a Horſe always looks the more beautiful for being well mark'd, and a Horſe without Marks has always a deadneſs in his aſpect. A Star is the moſt common of all Marks, and where that is wanting, it is often ſupply'd with an artificial one. When the White deſcends pretty broad towards the Noſe it is called a Blaze: When it deſcends into a ſmaller line it is called a Snip; and when moſt of a Horſe's Face is white, he is then ſaid to be bald. All theſe Marks are beautiful when they are not to extremes; for a very large Star is not reckoned ſo beautiful as one that is of a moderate ſize, neither is that Baldneſs that

ſpreads over a Horſe's whole Face and Cheeks any ways becoming, as it gives him the looks of an Ox, and ſuch Horſes are often plain headed. When the White of a Horſe's Face is divided in the middle, or any other part, or when a Blaze or Snip runs awry to one ſide it looks ſomewhat diſagreeable; tho' perhaps it may be no diminution to a Horſe's goodneſs. Some black Horſes have their Stars or Blazes fring'd round with a mixture of black Hairs, which looks very well, only ſuch Horſes (as I have obſerv'd already) are apt ſoon to grow grey fac'd and look old, as are ſome of the Browns. But when the Bays and Sorrels have their Stars or Blazes fring'd, it is generally with their own colour or lighter, and ſeldom has that effect.

Now as to the white Marks upon the Feet and Legs of Horſes, they uſually correſpond with the Marks on their Faces. Bald Horſes have generally a good deal of White about their Legs, and often all four are white, which in them is not unbecoming. Horſes with large Blazes have often all their four Feet white alſo. But a Horſe that has no Mark on his Face, or but a ſmall one, never looks well with white Legs, eſpecially when the White riſes above the Fetlock. On the other hand a bald Horſe, or one that has a Blaze without any of his Feet white, is but ill mark'd, and therefore a Horſe always looks beſt, when there is this correſpondence and agreement in the Marks; a Horſe that has his near Feet both before and behind White, and his off Feet without any white, is but indifferently mark'd: The ſame where the Marks are only on the off Feet, without any White on the near Feet. Some diſlike Horſes for being travers'd or croſs mark'd, *viz.* the near Foot before, and the off Foot behind white, or on the contrary when the off Foot before, and the near Foot behind are only White. Theſe are uſually judg'd to be the beſt mark'd, that have only the near Foot behind White, or both Feet behind White, or where the near Foot before, and both the hind Feet are White, eſpecially when at the ſame time a Horſe has a large radiated Star or a ſmall Blaze on his Face. When the White about the Feet are indented with Black, or any other colour towards the Coronet, theſe Feet are thought to be generally good, and when the Coronet is ſpotted like Ermine, the Mark is ſo much the better. But where a Horſe's Paſterns, Hoofs, and all his four Legs are White, eſpecially when the White riſes above the Knees or Hocks, it looks ugly, and a Horſe thus mark'd has too much of the Pye-bald, which are ſeldom fit for Gentlemens uſe.

The Feather is another kind of diſtinction which we often obſerve, eſpecially on Stone Horſes, and ſuch Geldings as have ſhort Hair, and are finely coated. Some are of a round Figure, and ſome long and narrow, in the

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true penniform Shape, or like an Ear of Barley. The round are often on the Forehead, ſometimes on the Briſket and Shoulders, and look like Embroidery. Thoſe on the Neck lye immediately under the Mane, and run down towards the Withers. When the Feather happens on both ſides the Neck the Mark is reckoned exceeding good and beautiful: Sometimes Feathers run down the fore Arms, and ſometimes on the Thigh, and run towards the Dock, and they may be obſerv'd on ſeveral other parts of a Horſe. But wherever they happen to be, they are almoſt always ſigns of Goodneſs, and ſome of them are exceeding beautiful.

PART

PART II.

Of the Anatomy of a HORSE.

Some Preliminaries relating to the Anatomy of a Horſe, neceſſary to the Knowledge of his Diſeaſes.

HAVING in the firſt Part of this Treatiſe begun with the common Names of the external Parts of a Horſe, with other uſeful things relating to this Subject, I ſhall now proceed to give an account of his Structure and Mechaniſm, wherein I ſhall be as brief as poſſible, having already treated the Anatomy of a Horſe at ſome length in my *Farriers Guide*. However, I intend to include as much in this place, as may be neceſſary to thoſe who have not time, leiſure, or opportunities to ſtudy the knowledge of Anatomy; and ſhall endeavour to be ſo plain and eaſy, that even thoſe who have not had the advantages of a liberal Education, may be able from hence to form a tolerable good notion, both how to underſtand the Diſeaſes of Horſes, and the beſt manner of curing them. In order to which, I ſhall premiſe ſome things by way of Introduction, for the better underſtanding the Parts and Mechaniſm of a Horſe as they are anatomically deſcribed.

A Horſe and all other Animals are in the Embrio firſt of a ſoft contexture, which conſiſts of ſuch Properties as in time grows into Fleſh, Blood, and Bones, capable of being organiz'd, and animated with proper Life.

ALL the parts of an Animal from its firſt rudiment or beginning, is made up of Fibres and Threads, and retain the ſame contexture in all their changes, whether into Membranes, ſolid Fleſh, or into Bones, or Ligaments, which muſt be plain to every one, that will but take the trouble of a ſuperficial inquiry into ſuch things.

THE component parts that produce all the neceſſary functions of Life, conſiſt of Membranes, Muſcles, Glands or Kernels, Blood Veſſels, Lymphaticks, Ligaments, Cartilages, and Bones. Horſes and other brute Creatures have alſo their Hair, partly for a cover to keep them warm, and partly for ornament,

ornament, as the Hoofs anſwer to the human Nails, and are a defence to their Feet.

The Membranes are thin expanded Parts reſembling a fine Web, of which the Dura Mater that involves the Brain, is by ſome reckoned the principal, and to give origin to all the other Membranes of the Body. The Pia Matter which adheres cloſe to the ſubſtance of the Brain, is alſo a Membrane of ſingular contrivance and uſe. All the Muſcles and Bones are covered with their proper Membranes, and one very remarkable double Membrane like a Pillowbear, involves the whole Guts, which are alſo in a great meaſure membranous.

The Muſcles are fleſhy Bodies, which may be eaſily ſeparated one from another, being each ſkinned over with a proper Membrane, with their extremities more or leſs tendinous and ſinewy, and are ſo commodiouſly placed by their Origins and Inſertions, as to move each reſpective part to which they belong, and alſo to act in conſert one with another in all the various motions of the Body.

The Blood-Veſſels conſiſting of Veins and Arteries, are thoſe Conduits or Pipes, by which the Blood is carry'd from the Heart to all parts of the Body for its nouriſhment and ſupport: The Arteries convey it to all the Extremities, and the Veins return it from the Extremities to the Heart, from whence it is detached back again into all parts, and returned by the Veins in a continued courſe of Circulation.

The Lymphatick Veſſels carry a lymph or pure Water ſeparated by the Lymphatick Glands, which is mixed with the Blood to preſerve it thin and fluid.

The Nerves are ſmall white Chords or Threads detach'd from the Brain and Pith of the Back into all parts of the Body, and are the chief Inſtruments of Senſe and Motion.

The Glands or Kernels are made up of Veſſels ſo exquiſitely fine and ſmall, that in many of them they are imperceptible to the naked Eye, for the moſt part rolled up together like a Clue, and are judged to be the terminations and endings of Veins and Arteries, whereby ſome Juices are ſtrained to ſuch tranſparency and fineneſs as fits them to be reunited with the Blood; others only ſeparate excrementitious Matter.

The Ligaments being of a middle nature, between a Sinew and a Griſtle, are chiefly of uſe to tye the Joints together, ſo as to preſerve and keep them in their proper place, without impeding any of their neceſſary Motions.

A Griſtle or Cartilage is more compact and ſolid than a Ligament, but not ſo hard and brittle as a Bone. Where the Cartilages are thin and pointed, as the ſhort Ribs, &c. they are endow'd with a ſpring or elaſticity, by which they cannot be ſo eaſily broke as if they were of a harder conſiſtence. They are alſo of uſe to cover the ends of the Bones to preſerve them from wearing, and to facilitate their Motions.

The Bones are the hardeſt of all the parts of an animal Body: They are inſenſible of Pain, as are alſo the Ligaments and Cartilages, except when they turn carious by inveterate or long continued Diſeaſes: They are the chief ſupporters of the whole animal Fabrick, to which they alſo give Shape, and are like Levers for the Muſcles to play upon, being united together by many Junctures for the conveniency of Motion. I ſhall therefore begin with a ſhort Deſcription of the Bones, and proceed to the other Parts in their proper Order.

CHAP. I.

Of the Bones of a Horſe, with the Ligaments and Cartilages.

THE firſt that naturally offer to be deſcrib'd are the Bones of the Head, which, including thoſe peculiar to the Skull, and thoſe that are common to it and the upper Jaw, are reckoned ſeventeen in number. But I ſhall chiefly take notice of thoſe that are the moſt obſervable and plain to be ſeen. The Head has firſt of all the frontal or forehead Bone which makes the Brow, and in Colts and almoſt all other young Animals, is divided by a Seam down the middle, which in time totally wears out: The two ſide Bones called the *Parietal* or Walls, are divided by a Seam which reaches along the middle of the Head from the Forehead to the Occipital or Noll Bone: Theſe are ſmall in a Horſe in proportion to what they are in Man, becauſe the greateſt bulk of a Horſe's Head lies forward. All the Bones of the Head are join'd together by Sutures or Seams indented into each other, which is the only way by which the Bones of that Figure could be united, ſo as to anſwer all the Functions of the Head and Brain. Beſides theſe principal Bones are the temporal Bones, which are not indented as the other, but are join'd to each ſide by appoſition, and are fixed by a gummy cement to the circumambient Bones of the Head. They are thick and very hard in their middle and lower part, but grow thinner eſpecially round their upper Edges. The Bones common to the Head and upper Jaw, are the wedge

Bone, the yoke-like Bone, and the *Os Cribriforme* or ſieve-like Bone. The other eight that make up the number ſeventeen belong to the Ear, which form the Organs of hearing, and lie within the temporal Bones, *viz.* four on each ſide.

THERE are ſeveral Blood-Veſſels that have their Paſſage thro' the Seams of the Skull, by which the Blood has its egreſs and regreſs from the Brain to the external parts of the Head, and from thence back to the Brain: And beſides the Veſſels that paſs thro' the Sutures, there are Holes and Perforations in divers parts of the Skull, for others that are ſpread both externally and internally upon the Head and Brain, and particularly five very diſtinct ones in the *Occiput* or Noll Bone, beſides its great perforation towards its bottom, by which the ſpinal Marrow or Pith paſſes downwards thro' the Bones of the Back. There are alſo many Holes thro' the *Os Cribriforme* towards the Noſe and the larger Emunctories, for the Paſſage of ſeveral Nerves and Blood-Veſſels, with others towards the Eyes and Ears.

ON the inſide of the Bones of the Skull, are ſeveral Sinus's or Impreſſions and Furrows made by the larger Veſſels of the *Dura Mater*, or uppermoſt Membrane of the Brain, which Veſſels form theſe Lodgments in the Fætus before the Skull acquires its hardneſs by which theſe Veſſels are afterwards preſerv'd from external Injuries. The inſide of the Skull is alſo in many other places full of unevenneſs, made by the form of the cortical part of the Brain, whereby we may eaſily perceive that the Skull or *Cranium* is a proper Helmet or Defence for the Brain, and likewiſe that the Brain muſt have its perfect Form prior to the Skull, which at firſt is itſelf but a Membrane like a Bag, and becomes bony by degrees; for if the Bones, eſpecially thoſe of the Head, were to grow hard before the Birth, it would be difficult for any Creature to be brought forth without manifeſt danger.

IT may alſo be obſerved with reſpect to the accretion and growth of the Bones of the Skull, that they begin always to turn bony towards their middle or moſt protuberating part, and ſo dilate their hardneſs by degrees to the Edges, where they are join'd and indented into one another, which kind of Mechaniſm prevents many accidents to which all young Animals are expoſed. But afterwards the Bones of a Horſe's Head grow ſo extremely hard, that no head Saw is able to part them aſunder, unleſs it be contrived much ſtronger than thoſe commonly uſed by Anatomiſts. The Meditullium, or middle ſubſtance between the two Plates of the Skull, is ſcarce to be found in adult or full ag'd Horſes, but both its Tablatures ſeem to be united into one, except over the Eyes, on the lower part of the frontal Bone, or on the inſide where there are large Sinus's or Furrows, by which means a Horſe's Head

is

is well fenced againſt Blows and other accidents: But towards the Noſe the Bones are more ſpungy, and made up of ſeveral Cartilages which are very tender and ſenſible; and we often obſerve brutiſh People in their paſſion beat their Horſes over the Noſe, as the ſureſt way to gratify their revenge, when they happen to be dull or obſtinate.

The wedge-like Bone, or the *Cuniforme*, as the Anatomiſts call it, is join'd before to the frontal or forehead Bone, and behind to the lower part of the *occipital* or noll Bone, and ſo makes the bottom or baſis of the Skull like a wedge between it and the upper Jaw. It has ſeveral Holes or Perforations which give paſſage to the Carotide Artery and Jugular Vein, the principal Blood-Veſſels belonging to the Head. The *Os Cribriforme* or ſieve-like Bone already mentioned, gives a paſſage to ſeveral Blood-Veſſels and Nerves, ſome to the Noſe, ſome to the Eyes, and ſome to the Ears, and contribute to the Senſes of ſeeing, hearing, and ſmelling, and alſo divides the Noſtrils, and has ſeveral cavities filled with ſpongy Fleſh.

The upper Jaw Bone is join'd to theſe, and has a little Proceſs that paſſes to the lower part of the Orbit of the Eye, which forms part of that Orbit. The Cheek Bone, which is alſo part of the upper Jaw, has a very large ſinus or hollow below the Eye, on each ſide, which in a Horſe is divided by four bony Partitions that open into the Noſe; there is alſo a little Hole on each ſide, thro' each of which an excretory duct or little Pipe paſſes, to carry off the ſuperfluous Moiſture from the Kernels or Glands on the inner corners of the Eyes, and when theſe are ſtop'd the Kernels grow ſpungy, are ſoak'd with Moiſture, and breed the Diſtemper called the Haw. On the lower part are the Alveoli or Sockets for the teeth, which, including the Tuſhes, are twenty in number, *viz.* ſix fore Teeth and twelve double Teeth backwards called the Grinders, *viz.* ſix on each ſide.

The lower Jaw differs from the upper in that it is moveable, being joined and articulated into the Sinus's of the lower part of the temporal Bone. In young Animals it is divided between the Fore-Teeth ſo as the Bones may be eaſily parted aſunder. On its lower Edge it is round and ſmooth, and hollow within, containing ſeveral Cells filled with a medullary Subſtance or Marrow. Thro' it are ſeveral Holes, and under the Teeth Sinus's for the paſſage of Nerves and Blood-Veſſels. The middle or flat part is more ſolid, and along the inward Edge are the Alveoli or Sockets for the Teeth, which are the ſame as in the upper Jaw, *viz.* ſix forward, two Tuſhes, and ſix on each ſide backward, making in all above and below forty in number.

The Bone of the Tongue called the Os Hyoides, from the reſemblance it has to the Greek Letter υ *ypſilon*, has its proper Muſcles, which take their

riſe or are inſerted into it, beſides others that go to the Palate and Larynx, or Head of the Windpipe, which alſo have their Origins from this Bone.

The Vertebræ or Rack Bones.

THE Vertebræ or Rack Bones come next to be deſcribed; the Neck has ſeven Vertebræ, the Back ſeventeen; the Loins have ſeven, the Croup ſix, and the Rump or Tail eighteen.

The Vertebræ of the Neck, Back and Loins.

THE Vertebræ of the Neck have their Spines round and ſmooth, with a hollowneſs between them on each ſide for the Muſcles and Ligaments which fill up their Cavities; the uppermoſt has a Proceſs that is received by the ſecond, upon which the Head turns from ſide to ſide like a Door upon its Hinges, and yet is ſo fixed to the Head by Muſcles and Ligaments, that it cannot go beyond its Limits. The ſeventeen Vertebræ or Joints of the Back are different from thoſe of the Neck, having their Spines very high, eſpecially on the Withers which riſe archwiſe, and are like a Paliſade or Rail. Theſe Spines are pretty ſolid in the middle, and of a contexture like the Ribs, only that their Tops are broad, ſoft and ſpungy, covered with a very ſmooth and ſtrong Ligament to keep them united, and preſerve the Back from being bruiſed. Below and beyond the Withers, and along the Seat the Spines are ſhorter and of equal height, till they approach towards the Loins where they riſe higher, eſpecially they are very conſpicuous in roch-back'd Horſes, but behind they are more level as they deſcend towards the Rump. Every one of theſe Bones, from the firſt Vertebræ of the Neck to the laſt of the Loins, has a large Perforation for the Pith of the Back, which deſcends from the Brain, and paſſes downwards to the Rump, where it ends. The Bones of the Tail are eighteen in number: They have no Pith within them as thoſe above deſcrib'd, and therefore are not perforated, but are without any Bore: They are ſoft and ſpungy, and more looſely joined together with very ſoft yielding Cartilages, ſo that they may be eaſily ſeparated and curtail'd in any part without danger; they are alſo the better fitted to Motion, wherein the Tail anſwers all the Motions of a Horſe. They are large towards the Rump and ſhort, but grow gradually ſmaller and longer till they end in a Point.

The Collar Bones.

THE Collar Bones are two in number in the ſhape of an Italick *ſ*, *viz.* one on each ſide; by one End they are united to the uppermoſt Rack Bones, and by the other to the upper part of the Sternon or Breaſt Bone, by little Heads which enter into the Cavities of theſe Bones; whereas thoſe in Men are joined to the Shoulder, and aſſiſt in its Motion by a particular Mechaniſm, which I need not here deſcribe, but in a Horſe they are of uſe to ſupport the Shoulder Blades, and keep them from ſliding forwards.

THE

The Ribs. THE Ribs, in all thirty-four in number, are diſtinguiſhed by the true and falſe. The true are the uppermoſt nine on each ſide, which are alſo join'd to the Rack Bones of the Back, and to the Breaſt Bone incompaſſing the whole upper Cavity. The Breaſt Bone in a Horſe, and many other Quadrupeds, is ſhap'd ſomewhat like the Bottom of a Ship. It is at firſt ſpungy, but in time grows pretty hard, and has along its two Sides cartilaginous Dents or Impreſſions, where it receives the Ends of the true Ribs. The Part which reaches towards the Pit of the Stomach, is called the *Cartilago Enſiformis*, or Sword-like Cartilage, having a Point reſembling that of a Sword. The falſe Ribs are in number eight on each ſide: They are not ſo ſtrong and rigid as the true Ribs, and grow ſhorter as they approach towards the Loins, leaving an Opening for the Stomach and Belly. The Shape of a Horſe's Belly depends much upon the Length or Shortneſs of theſe Ribs; for the larger they are in compaſs, a Horſe looks the more round, and when they are very ſhort, ſuch Horſes can never carry a good Belly. All the Ribs are thick and ſtrong towards the Back, but towards the Briſket and Belly they are thin and flat; whereby they are endowed with a kind of Spring, which enables them to dilate and contract in Reſpiration, and when they are well proportion'd, add conſiderably to the goodneſs of a Horſe's Wind. All the Ribs on their inſide are exquiſitly ſmooth, and covered with a Membrane reſembling the fineſt Satin, that the Heart, Lungs and other Viſcera, may not be hurt by their hardneſs.

The Shoulder Blade. THE Shoulder Blade Bone lies like a Shield from below the Withers, to the point of the *Os humeri* or Shoulder Bone, which Bone turns backwards to the Elbow forming an Angle. The Blade has a high Spine or Ridge along its middle on the outſide, and is joined to the Ribs by its Muſcles, which have very ſtrong Tendons. The lower end has a ſlender Cavity which receives the round head of the Shoulder Bone, and becauſe of its ſhallowneſs is invironed with a very tough catilaginous Subſtance, and covered over with a broad and very ſtrong Ligament like a Purſe, which not only prevents the round Head of the Shoulder Bone from ſlipping out, but gives the Shoulder an eaſy play, and adapts it all to its neceſſary Motions.

The Os humeri, or Shoulder Bone. THE Shoulder Bone in a Horſe, and moſt Quadrupeds, is very ſhort from the Shoulder to the Elbow, where it is joined to the *Cubit* or Fore Leg by ſtrong Ligaments. It has at its lower end two Proceſſes, and on the hinder and upper part of the Leg Bone is a high thin Proceſs, which enters between theſe two Proceſſes, and makes the Elbow Joint; and the high thin Proceſs forms the Point of the Elbow, and as it riſes higher than the Articulation of the Joint, prevents the Leg turning backwards by a counter Motion.

THE

The Leg Bone, with thoſe of the Feet and Paſterns.

THE Leg Bone is joined at the Knee to the Shank, which Bones receive, and are received into one another: This Joint has two ranges of little Bones within the bending of the Knee, *viz.* three in the firſt Range, and four in the ſecond, which not only ſtrengthen that Joint, which could have no ſtability without them, but render its Motions (which conſiſt only of bending and extenſion) more ſafe and eaſy: Theſe are knit together by Ligaments that are partly tendinous and partly cartilaginous.

THE Shank is that Bone which reaches from the Knee to the great Paſtern. It is compoſed of three Bones, one large, the other two reſemble Bodkins, being thick and roundiſh upwards, but ſmall downwards. The great Paſtern has three ſmall Proceſſes, which are received into three Cavities of the Shank Bone, and two Cavities which receive two Proceſſes of the ſame Bone, and has two ſmall triangular Bones faſtened to its back part, which form the Fetlock, and are alſo like a Stay to preſerve the Joint from falſe Motions, which would very much ſtrain the Ligaments. The little Paſtern is joined to the great Paſtern in ſo curious a manner, that to the Eye both ſeem to be but one. By this Juncture the Paſterns yield and give way, when a Horſe is preſſed with a great weight upon his Back, which otherwiſe by their poſition would be apt to break. The lower end of the leſſer Paſtern is articulated, and join'd to the Coffin Bone by two Heads, and to the upper or greater Paſtern in the ſame manner as it is received into the Coffin Bone.

THE Coffin Bone is that which lies within the Hoof as in a Coffin; it is round upwards where it receives the little Paſtern, but grows broader and thinner towards its Bottom; it is of a porous open contexture like a piece of loaf Sugar, and is eaſily pierced, and often wounded when Horſes happen to take up Nails, or other ſharp things in the Streets, to which accidents they are often liable, and are more eaſily cur'd than if that Bone was hard and ſolid.

Bones of the hind Parts.

THE Bones of the hind Parts of a Horſe, are the *Oſſa Innominata*, divided into the Hip, Haunch, and Share Bones. The firſt is the *Os Ilium*, ſo called from the Gut Ilium that lies under it. The ſecond is the *Pubis*, which makes a ſmall Arch at the extremity of the lower Belly, thro' which the Yard paſſes, at the entrance of which is the Neck of the Bladder. The third is called the *Iſchium* or Coxendix, and has on each ſide a large round Cavity, which receive the round Heads of the Thigh Bones. Theſe Bones are joined on their Back or upper part, to the *Os Sacrum*, by Cartilages or Griſtles, which in time grow ſo hard, that they can ſcarce be ſeparated. The Os Sacrum is the Bone that lies under the Crupper next the Rump, which with the Oſſa Innominata form the Pelvis or Baſon. It is alſo joined

to the loweſt Rack Bone of the Loins, and with the uppermoſt Bone of the Rump.

The Thigh Bone reaches from the Hip to the Stiffle. Its upper Head is round and ſomewhat longiſh, that it may the better fill up the Aſcetabulum, or Cup of the Hip Bone, and as it turns backwards and forwards within this Cup or Cavity, upon the alternate motions of a Horſe's Leg, it is therefore in common phraſe called the Whirl-Bone. The lower end of this Bone has two Proceſſes like a Pully, between which is a large ſpace that receives the Protuberance of the Leg Bone, which is theBone that reaches from the Stiffle to the Hock; there is a middle ſpace pretty large and deep between theſe two Bones, where they join, that receives the under ſide of the Stiffle Bone, which is the Knee-Pan of a Horſe. The Whirl-Bone.

The Stiffle-Bone or Knee-Pan, is prominent on the outſide with ſome Aſperities for the inſertion of the Muſcles of the Thigh, and on its inſide curv'd and ſmooth, exactly anſwering to fill up the Space between the two Bones above deſcribed. It is kept in its place by a ſtrong Ligament, that riſes from the upper end of the Bone of the Leg, and is inſerted into its lower end below its middle, and by the Tendons of the Muſcles of the Thigh, which are inſerted into its upper end, and by a broad, ſtrong ligamentous Subſtance, which is expanded all over it, ſo that it cannot be eaſily diſlocated with the moſt violent Force, neither can it be ſo readily fractur'das a Man's Knee-Pan, becauſe of its convexity. It is very ſtrong and ſolid, like a piece of Flint, has no cavity within it, and but very little porous, which renders it the more fit for all the motions of the Leg. The Stiffle.

The ſmall Bones of the Hock, are in number the ſame with thoſe of the Knee, *viz.* three in the firſt Range, and four in the ſecond; they are alſo articulated with the Inſtep, as thoſe in the Knee are with the Shank: They are extremely ſmooth, ſo as to facilitate the motion of the Joint, and preſerve a Horſe's Legs from doubling under him when he is put upon his Haunches, and give a kind of ſpring in vaulting, leaping, or any other forcible action of the hind Legs.

The Inſtep is made of three Bones, which are ſo cloſely united, that they ſeem to be but one, and cannot be eaſily ſeparated, much in the ſame manner as the Shank Bone already deſcribed. The Paſterns and Coffin Bone, agree alſo in every reſpect with thoſe of the fore Feet.

The Hoofs are a bundle of Huſks, which cover the Papil'æ pyarmidales of the Skin, on the extremities of the Feet, which dry, harden, and lie cloſe one upon another. They are without Senſe, that they may endure travelling among Stones, and in rough Ways, and like the Nails of Men are continually

tinually growing, by which means they may be pair'd or cut, as often as they require it. They adhere pretty cloſe to the Foot, and are faſtened to the Coffin Bone by a Ligament that proceeds from their Root, and ſurrounds it below the Coronet like a piece of Tape, which alſo unites it to the Coronet. Underneath the Hoofs are many Twigs of Nerves, Tendons, and Muſcles, which take their courſe to the bottom of the Foot, and make that fleſhy ſubſtance that lies between the Sole and the Coffin Bone.

I ſhall conclude this ſhort Diſcourſe of the Bones with obſerving, that all the long Bones, ſuch as the Shoulder and Thigh Bones, the Bones of the Leg, of the Shank and Inſtep, are hollow along their middle, and contain a medullary ſubſtance or marrow, which ſerves inſtead of oil, to keep them from growing too hard and brittle. Towards their extremities, that is at both ends, they are not perforated, but their ſubſtance is porous, and their interſtices, when cut, are bloody, eſpecially in young animals, which is a great means to prevent their being broke very near the joints, which would almoſt always intail incurable lameneſs. Over each end they have an Epipheſis, or cap, covered with a Cartilage or Griſtle, to make their action glib and eaſy, and are inſenſible, that their motions may induce no pain. The larger joints, ſuch as the Shoulder, the Hip, and the Stiffle, have not only very ſtrong ligaments, of various contrivance, to keep them in their place, as has been obſerved, but have Glands or Kernels that ſeparate an oily matter, which continually preſerves them moiſt, otherwiſe they would ſoon grow dry, and wear with their frequent friction one upon another. All the Bones have holes or perforations more or leſs, for the paſſage of Nerves and Blood-veſſels; and in ſeveral places, beſides their common Proceſſes and Protuberances, little aſperities and roughneſſes, for the origin and inſertion of Muſcles, which are ſo ſituated, as not only to add the greateſt beauty, but are the moſt ſubſervient to their various motions, and all their other appointments.

Where no motion, or but little motion, is intended, the Junctures are more compact, as in the Bones of the Head, the Rack-bones of the Back and Loins, the Os Sacrum, and Bones of the Hips; and yet all theſe Junctures are uſeful and neceſſary, and contrived with great wiſdom; for by the Seams or Sutures of the Head, no fiſſure or cleft can run quite acroſs, but muſt terminate at one of theſe. The Vertebræ, or Joints of the Neck, having no ſharp Spines, but being ſomewhat in reſemblance of a Chain, are altogether fitted to give a beautiful turn to the Neck, and to all the neceſſary motions of the Head. The Vertebræ, or Rack-bones of the Back, are alſo ſo joined with yielding Cartilages, as endues them with ſuch a property as we obſerve in green ſaplings, which enables them to correſpond with all the

other

other animal motions, and, at the ſame time, are ſo confined by their Spines and Proceſſes, and by antagoniſt Muſcles, that they cannot be diſtorted beyond their proper limits, without great violence; and yet if theſe were altogether without motion, the whole body muſt alſo, in a great meaſure, be immoveable. On the contrary, the Bones of the Hips, with the Os Sacrum, are joined in ſo compact a manner, as ſhews them to have no very great capacity of motion in themſelves, but are ſo placed as to give the greater certainty to the motions of the Hind-legs; and the compactneſs of the Rack-bones between the Shoulders and the height of their Spines, has the ſame effect on the Fore-legs; ſo that there is nothing wanting in the mechaniſm of the Bones, to render all the actions of a Horſe compleat and perfect.

CHAP. II.

Of the MUSCLES.

THE Muſcles are the inſtruments of motion, and it is by them that all the motions of every animal body are performed. They are of ſeveral kinds; ſome are long and round, as moſt of thoſe that move the Limbs, and are broader and flatter at their origins than their inſertions, where they run out in ſhape of a ſmall cord, and form thoſe ſtrong Sinews that are inſerted into the Hocks and Paſterns. They are made up of ſeveral bundles of fibres or threads, and all the Muſcles of this kind are rectilineal, having their fleſhy fibres on their outſide gradually ſhorter than thoſe in the middle, which not only makes them ſtronger at their inſertions, but this contrivance prevents the Limbs being fleſhy, which, by any other mechaniſm, would happen upon every change or alteration in the Blood, and would very much weaken and debilitate thoſe parts, as we ſee in many inſtances, where the Muſcles of the lower Limbs happen to be fleſhy near their inſertions.

MANY of the other Muſcles are more or leſs flat in their middle, and their origins and inſertions are alſo flattiſh. Some of theſe are long and narrow, as the ſtraight Muſcles of the Belly, which, becauſe of their thinneſs and their great length, are tendinous in ſeveral parts acroſs their middle; others are tendinous lengthways, and their Fibres run off on each ſide like a feather, and are therefore called penniform Muſcles. Some have both their directions oblique, as the oblique aſcending and deſcending Muſcles of the Lower

Belly. They are alſo of different ſhapes, according to their different uſes, and the parts where they are ſituated, ſome being triangular, ſome pyramidal, ſome indented or toothed like a ſaw, and ſome are round and anular like a ring, as the Sphinctre Muſcles that open and ſhut the Fundament and Neck of the Bladder; the laſt of which is more diſtinct in Horſes, and ſome other large animals, than in the human body.

Now as to the particular ſtructure and mechaniſm of the Muſcles, it may be obſerved, that they are all exactly ſuited to the parts they are to move. Where the motions are not ſtrong, but quick, the Muſcles are ſlender, or ſhort, and ſometimes both. Where the motions are ſtrong, the Muſcles are not only ſtrong likewiſe, but are ſometimes of great length; being derived from parts at a diſtance from their inſertions, as ſome of the Muſcles of the Shoulder, Neck, and Limbs; and where they are to ſupport or move any great weight by a ſlower motion, their Tendons and ſinewy parts are extremely ſtrong and firm, and are made up of the Tendons of ſeveral Muſcles united together in one; as ſome of thoſe belonging to the Legs, Paſterns, and Hocks, which are actuated by the force of ſeveral Muſcles joined together towards their inſertions. In parts where there is the greateſt variety of motions, the Muſcles are the moſt numerous; and where the motions are few, the Muſcles are alſo few in number.

HAVING premiſed theſe things in general concerning the Muſcles, I ſhall now proceed ſo far into particulars, that thoſe who peruſe the enſuing part of this Treatiſe, may have the better notion of thoſe Diſtempers, where the Muſcles are principally affected.

The Muſcles of the Head and Neck, and their ſeveral motions.

THERE are a great number of motions peculiar to the parts belonging to the Head and Neck, which are therefore ſupplied with abundance of Muſcles. The Eyelids have no leſs than three pair of Muſcles, and the Eyes ſeven. One pair of the Muſcles of the Eyelids opens, and two ſhut them. The one that opens is peculiar to the Eyelid only; whereas the other two are inſerted into both, to bring them together, and to ſhut the Eye; and all of them riſe from the edge of the hole in the bottom of the Orbit, through which the optick Nerve paſſes to the Eye. The Muſcles of the Forehead alſo act by conſent, in opening and ſhutting the Eyelids; and their Action is moſt perceivable, when a Horſe, or any other creature, is brought out of a dark place into a ſtrong light. But the Eye having a variety of motions, its Muſcles are more numerous, to move it upwards, downwards, and ſideways, and to roll it about. Horſes, and almoſt all Quadrupeds, have one peculiar to them, which is not to be found in men; and is therefore called *Septimus Brutorum*. It is ſhort and fleſhy, inſerted into the hinder part of

Of the Eyelids.

Of the Eye.

the

the Cornea, and not only aſſiſts in the tonick motion of the Eye, when all the Muſcles of the Eye act in concert together; but it is neceſſary to keep the Eye ſuſpended in creatures that feed with their heads downwards, leſt, by their continual and ſtedfaſt looking towards the ground, the other Muſcles ſhould be weakened, and the Eyes, by that means, project too far outwards, which would be apt to impair the ſight, if not to intail blindneſs.

The Muſcles of the Noſe.

The Noſe has four pair of Muſcles, that widen and contract the Noſtrils, which ariſe from the upper Jaw, and from under the Eyes, and are all of them inſerted into the Griſtles of the Noſtrils, and part of the upper Lip. The action of the Muſcles of the Noſe is moſt perceivable, when Horſes are extremely heated with Exerciſe, in broken-winded Horſes, and in all kinds of Fevers, where the Noſtrils open and ſhut more or leſs, in proportion as a Horſe happens to be more or leſs oppreſſed with his diſtemper; and as ſome of the Muſcles of the Lips act alſo in concert with thoſe of the Noſe, therefore, in very extreme caſes, the upper lip is alſo drawn upwards in all the workings of the Noſtrils.

Of the Lips.

The Lips have five pair that are proper, and two common to the Mouth and Cheeks; ſome of which compoſe the fleſhy part of the Cheeks. The chief uſe of theſe Muſcles is to enable a Horſe to gather in his Provender; and one pair, particularly, draw the upper lip directly upwards; which action is plainly viſible, when a Horſe ſmells at dung, piſs, or any thing that has a pungent ſcent. There is another remarkable Muſcle belonging to the Lips, which aſſiſts in all the motions of the Jaw; and as it requires more force in its action, ſo it takes its origin partly from one of the Vertebræ of the Neck, and partly from the Shoulder-blade, Breaſt-bone, and Collar-bone, and is inſerted into the Chin, Lips, and lower part of the Noſe. The reſt, by which all the peculiar motions of the Lips are performed, ariſe only from ſeveral parts of the upper and lower Jaw, and are inſerted into the orbicular Muſcle, which, like a Sphincter, ſurrounds the Lips at their Extremity.

Of the Jaws.

The upper Jaw being of itſelf incapable of motion, therefore all the Muſcles that ſerve to open and ſhut the Mouth, belong properly to the lower Jaw; the chief of which are the Temporal Muſcles, which make up the fleſhy part of the Temples, and the Muſcle already mentioned, that riſes from the Neck, Shoulders and Breaſt; which being inſerted into the Chin and upper Lip, has a conſiderable ſhare in pulling down the Jaw, ſo as to open the Mouth, as the Temporal Muſcles have the chief ſhare in pulling it up, and ſhutting the Mouth. There are others that move the Jaws ſeveral ways in chewing, and are therefore called the Maſſeters; beſides theſe, one Pair thruſt the Jaw forwards, and another pull it backwards.

Of the Tongue. The Tongue is itſelf a muſcular ſubſtance, made up of Fibres variouſly combined together, and in ſuch a manner as may beſt ſuit and correſpond with all its different motions. The Tongue has five pair of Muſcles that are proper to it alone, and two pair that are common to it, and the Bone called the Os Hyoides, which I ſhall not here particularly deſcribe; becauſe wounds, cankers, or other accidents in the Tongues of Horſes, are, for the moſt part, eaſily cured, when proper applications are made uſe of: I ſhall therefore only take notice, that ſome of theſe Muſcles riſe from the lower Jaw, or the above-mentioned Bone; and ſome that riſe from this Bone, have their inſertions into the apertures of the lower Jaw-bone. One pair, that pull the Tongue backwards, ariſe from the Temporal Bones, and are inſerted into the Sides of the Tongue; and another pair from the lower Jaw, near the furthermoſt grinding Teeth, and are inſerted into the Ligament or Bridle of the Tongue; by which means they are ſuited to all its various motions. The Muſcles common to the Tongue and Os Hyoides, act chiefly in concert with the others, and give the Tongue ſuch motions as forward the Aliment into the Gullet, when it is ſufficiently chewed, and prepared to paſs into the Stomach.

The Larynx. The Larynx, or head of the Windpipe, has ſix pair of Muſcles, that help to open and ſhut its Valves, as the air paſſes and repaſſes from the Lungs, beſides one ſingle Muſcle which defends the enterance of the Windpipe from duſt, or any other hurtful matter entering into it, by drawing both ſides of the ewer-like Griſtle together. The Epiglottis, which principally opens and ſhuts the Windpipe, being itſelf like a Spring, has therefore its Muſcles exceeding ſmall, except in ſuch Animals as chew the cud. Theſe Muſcles are all more or leſs liable to be affected with violent Colds, that inflame the Lungs, and cauſe that ſoreneſs of the Throat that is obſervable in ſome Horſes, that hinders them from drinking, and ſwallowing down their food.

The Pharynx. The Pharynx, or head of the Gullet, has alſo its Muſcles, which are often affected in Colds. Their office is chiefly to widen and contract the upper Orifice of the Gullet. Another Muſcle ſerves inſtead of a Sphincter, to purſe it up after feeding.

The Muſcles of the Ears. The Muſcles of the Ears in Horſes are very diſtinct and perfect, and may be eaſily traced from their origins to their inſertions; but in Men they are very ſmall, becauſe the Ears of Men have but little capacity of motion; whereas Brute Creatures, being without hands, make uſe of their Ears to drive away flies, and other things that would be offenſive to them. The motion of the Ears is alſo neceſſary to Brute Creatures, for the reception of Sounds, eſpecially to Horſes that are to be directed by the voice of their Riders

Riders or Keepers, and to avoid dangers; and therefore we may always perceive ſomewhat of the intentions of a Horſe by the motion of his ears. When a Horſe ſees any remarkable object before him, he pricks up his Ears, and points them forwards, with an intention to hear, eſpecially when the Object is attended with any noiſe; and when the noiſe or ſound comes on one ſide, he turns his Ears that way to take the ſound; and when the noiſe is behind him, he lays his Ears backwards; which is moſt obſervable in hot or fearful Horſes; for ſome ſteddy old Horſes, and thoſe of the greateſt courage, take but little notice of any object that they ſee, or any noiſe they hear, unleſs it come ſo near as to give them ſome diſturbance.

The Ear is properly diſtinguiſhed by the outward and inward. The outward Ear has four Muſcles. The firſt lifts the Ear up, and points it forwards. The ſecond pulls the Ear backwards. The third draws the Ear forward, and points it downward; and theſe act together, and move both Ears; when a Horſe looks ſtedfaſtly to any thing that lies on the ground. The fourth aſſiſts the ſecond, and pulls the Ear backward and downward towards the Neck.

When a Horſe is wanting in a quick and ſprightly motion of his Ears, it is in a great meaſure owing to the weakneſs of theſe Muſcles; for this defect is always more or leſs manifeſt in thoſe that have their Ears uncommonly large and thick, where perhaps the Muſcles are not ſufficiently proportioned to the weight they are to move; and theſe Horſes are commonly the moſt dull and ſluggiſh.

As to the internal Ear, it has two Muſcles that move the Drum and Hammer, which are the chief Organs of Hearing, the Sounds being collected in the external Ear, and conveyed from thence into the internal. The firſt of theſe Muſcles move the Drum upwards. The other riſes from the Wedge-bone, and has two ſmall Tendons, one of which is inſerted into the upper Proceſs of the Hammer, and the other into the Neck of it. This draws the Hammer obliquely forward and inward; but when a Horſe, or other Animal, liſtens attentively to any approaching noiſe, then both theſe Muſcles act together, and draw the Drum or Tympanum, and all the little Bones of the Ear, alternately upwards and downwards, by which Sounds are diſtinctly and perfectly heard.

We ſhall now go on to the Muſcles of the Head and Neck, which, in regard of the Parts they have to move, are much ſtronger and larger than thoſe already deſcribed, and moſt of them have their Origins placed at much greater diſtances from their Inſertions; and by theſe all the motions of the Head and Neck are performed, *viz.* forwards, backwards, ſideways, and ſomewhat circular. And to this end, there are four pair of Muſcles common to the

Head

Head and Neck, and eight pair proper to the Head only. The proper Muſcles have ſome of their Origins from the Breaſt-bone, Collar-bone, and the Vertebræ, or Rack-bones of the Neck and Cheſt, and are inſerted ſome into the Occiput, or Noll-bone, and ſome into the Proceſſes of the two Temporal Bones. Thoſe of the Neck that act in concert with the Muſcles of the Head alſo take their Origins from the Breaſt-bone, the Spines of the Vertebræ of the Cheſt, and Rack-bones of the Back; and are moſt of them, by proper gradations, ſome higher, and ſome lower, inſerted into the tranſverſe Proceſſes of the Bones of the Neck, and with ſome muſcular Expanſions between their Proceſſes, make up the Bulk of the Fleſh that is on thoſe Parts. Theſe are called the *Interſpinales*, and are peculiar to the Neck, as they aſſiſt in all its vertebral motions.

FROM this extraordinary Mechaniſm of the Muſcles of the Head and Neck, and particularly by their remote Origins of the Collar-bone, Breaſt and Rack Bones of the Back, it appears how much they are ſuited to the ſeveral Articulations of the Joints, ſo as to ſecure them from harm in all their various turnings; otherwiſe, in parts that abound with ſuch numbers of Articulations, though they are well connected and tied together by ſtrong Ligaments, yet a Horſe might eaſily be injured by every quick motion, and by very ſlight accidents, and the conſequences would often be bad and hazardous, as we ſee in the Poll-Evil, and other fiſtulous Ulcers that happen about the Withers, which no doubt would be very frequent, if thoſe parts had not been thus ſecured; ſo that they ſeldom happen, without ſome violent accident or natural defect, or when they are the Criſis of ſome Diſeaſe, which I have often obſerved to be the Cauſe of thoſe Maladies.

The Muſcles of the Trunk.

THE Muſcles of the Trunk, which include all thoſe belonging to Reſpiration, and other important uſes, may be divided into thoſe of the Breaſt and thoſe of the Lower Belly, with the Muſcles of the Back and Loins; moſt of which are alſo endowed with a very great force.

The Muſcles of the Back and Loins.

THE Back and Loins have four pair of Muſcles, common to both. The firſt are remarkable for their great Length, extending from the Haunch-bones and Os Sacrum, and reach to the two Temporal Bones, one on each ſide. Theſe being attached to the Spines in their paſſage, are a great ſecurity to the Back, and aſſiſt the other three pair in all its motions. When all the Muſcles of the Back and Loins act together, the whole Back is extended; but when the Muſcles of either ſide act ſingly, the Body is inclined to that ſide only.

Of the Lower Belly.

THE Lower Belly has five pair of Muſcles, which ariſe from the Ribs, Haunch-bones, Share-bone, Breaſt, and other circumadjacent parts, and are

moſtly inſerted into the white Line that divides the Belly in the middle. One pair paſs obliquely downwards; another pair obliquely upwards; a third have a ſtraight direction from the Breaſt to the Share-bone; a fourth pair aſſiſt the ſtraight Muſcles in pulling down the Breaſt; the laſt are the tranſverſe pair, which take their courſe from the Loins and lowermoſt Ribs on each ſide, to the white Line.

THIS Partition, or white Line of the Lower Belly, is abſolutely neceſſary for the Origins and Inſertions of the Muſcles belonging to it; and indeed no other kind of Mechaniſm could have been ſo well adapted to a part ſo large, and of a roundiſh circumference; for had the Muſcles not been determined in the middle, but been ſtretched over the whole Belly, it would have been impoſſible for them to have acted with ſufficient Force and Energy. The Uſe of theſe Muſcles is to warm and comfort the Bowels, which are of ſo tender and delicate a nature, that they have alſo a Caul or Network of fat, and a thick double Membrane to cover them. They are alſo of uſe to make a ſufficient preſſure for the diſcharge of the groſſer Excrements, and to give ſome help to the Muſcles of the Breaſt, Midriff, and Ribs, in Reſpiration.

THE Breaſt has four pair of Muſcles that widen and dilate the Cheſt, and two pair that ſtraiten and compreſs it. Theſe make up that portion of fleſh which covers the Briſket, and all the Breaſt from the Collar-bone downwards to the Pit of the ſtomach, incompaſſing moſt of the foremoſt Ribs. Some of them have their derivations forwards, and from under the Shoulder-blades and Rack-bones of the Neck and Cheſt, and ſome backwards from the Spines of the Rack-bones of the Loins and Os Sacrum; and are moſt of them ſo inſerted into the Ribs, as to render their action of elevating and depreſſing the Cheſt eaſy and compleat. The Intercoſtals are the external and internal, and make up that portion of fleſh that fills up the ſpaces between the Ribs. Theſe alſo widen and ſtraighten the Ribs alternately in Reſpiration, and act with the Pectorals and Midriff. Of the Breaſt.

THE *Diaphragma* Midriff (or Skirt, as ſome call it in a Horſe or Bullock) is a muſcular Subſtance that divides the upper Cavity or Cheſt from the Lower Belly. It takes its origin on the right Side, from a Proceſs of the Rack-bones of the Loins, and on the left, from the uppermoſt of the Loins and lowermoſt of the Breaſt; and is inſerted into the lower part of the Breaſt-bone, and the five inferior Ribs, by which it makes ſeveral points. The middle is a flat tendinous ſubſtance, from whence the fleſhy Fibres begin, and are diſtributed like Rays from a Center to its Circumference. When this Muſcle acts alone, it contracts the Breaſt, and pulls the Ribs downwards, by which it aſſiſts the Muſcles of the Lower Belly, in the expulſion of the The Midriff.

Fæces;

Fæces; but its chief office is in reſpiration, to which all the Muſcles of the Breaſt, the Intercoſtals, and thoſe of the Lower Belly, are more or leſs ſubſervient, as has been obſerved.

In all the Actions of Reſpiration or Breathing, the Muſcles of the Breaſt have the greateſt force in Men; but in Horſes, and ſome other Creatures of a prone poſition, it is evident the Midriff has alſo a very great force, which ſeems to be plain in broken-winded Horſes; many of which have no other indication of diſtemper, only that the Midriff is ſtretched and relaxed in a very extraordinary manner. In ſuch caſes, the membranous Fibres are, for the moſt part, extremely thin, and the tendinous parts, towards their Inſertions into the Ribs, very ſmall and feeble; by which means it loſes a great deal of that force and ſpring that is neceſſary to its action.

When a Horſe, or any other animal, receives the air into his Lungs, the Breaſt and Ribs are diſtended, which is done by the dilatation of the pectoral Muſcles, by the extenſion of the Intercoſtals, *viz.* the Muſcles of the Ribs, and by the Midriff, which at that time is drawn out, and expanded to its full dimenſions, or in proportion to the quantity of air received into the Lungs. The Muſcles of the Lower Belly act alſo, by their affinity and Connexion, with thoſe of the Breaſt and Ribs; which we perceive more plainly in quadrupeds than in men, where the Lungs are upon a level with the parts of the Lower Belly. On the other hand, when the air paſſes out of the Lungs, the Muſcles that draw in or compreſs the Breaſt, and thoſe that compreſs the Ribs, act alternately with the Extenſors of the Breaſt and Ribs. The Midriff, which is ſtretched out in time of inſpiration, in expiration contracts, and its centre riſes upwards like the bottom of a diſh. And thus far the Muſcles of the Breaſt and Midriff, and other contiguous parts, may be conſidered as the inſtruments of reſpiration; and, as they are by that means in continual motion, muſt be endowed with great ſtrength, and maintained with conſtant nutriment from the Heart, which is ſeated like a fountain in the centre, and ſends forth immediate ſupplies of blood into all thoſe parts.

The Heart.

The Heart is alſo a muſcle of a conic figure, the ſhape of which is ſufficiently known, being pretty much alike in all creatures. It is compoſed of Fibres which have a ſpiral direction, by which it contracts and dilates itſelf alternately, as it receives the Blood into its Ventricles from the Veins, and as it diſgorges the Blood into the Arteries.

The Muſcles of the Stomach and Guts.

The Stomach and Guts have each a muſcular coat; that of the Stomach to aſſiſt digeſtion, and the muſcular coats of the Guts, to forward the aliment and fæces through the Inteſtines to their expulſion; which coats being

of

of themſelves but weak, and extremely thin, are therefore helped by the preſſure of the Muſcles of the Lower Belly.

The Anus, or Fundament, has a Sphincter Muſcle ſeated at the extremity of the Streight Gut, made up of circular Fibres, and encompaſſing it like a ring, which opens and ſhuts the Fundament, with the aſſiſtance of a Muſcle called its Levator, which alſo preſerves the Gut from falling out. This riſes from the Ligaments of the Hip-bones and *Os Sacrum*, and is inſerted into the ſaid Sphincter.

The Bladder has alſo its Sphincter Muſcle, that the urine may not paſs involuntarily, as happens ſometimes when it is wounded or much relaxed. The Yard has its Erectors and Dilators, and the Stones their Cremaſter, and Mares have alſo Muſcles belonging to their urinary and genital parts, which I need not here deſcribe, but ſhall go on to the Muſcles of the Shoulders; the knowledge of which being neceſſary for underſtanding the lameneſſes, and other accidents, that happen ſo frequently in thoſe parts.

The Muſcles of the Shoulders.

The Shoulder-blades have four pair of Muſcles ſuited to their ſeveral motions. The firſt are the *Cucullares*, ſo called from their reſembling a monk's hood or cowl. Theſe being ſeated between the Shoulders, cover the top of the Withers; and, when they happen to be fleſhy, cauſe that thickneſs we obſerve on thoſe parts, more on ſome Horſes than others. They ariſe from the hind part of the Head, from ſlender beginnings, and grow broader as they deſcend downwards to their inſertion in the Spine or Ridge of the Shoulder-blades, the Collar and Shoulder-bones. The next pair are the Levatores, or Lifters up, which cover the Collar-bones, ariſing from ſome of the tranſverſe proceſſes of the Neck, terminating in the fore-part of the Shoulder-blades, and draw them upwards and forwards. The third pair lie under the Pectoral Muſcles, ſpringing from the four uppermoſt Ribs, are inſerted into the Anchor-proceſs of the Blade-bone. Theſe move the Shoulder-blades forwards towards the Cheſt. The laſt pair lie under the broadeſt part of the Cucullares above deſcribed, riſing from the lowermoſt Spines of the Neck, and uppermoſt of the Breaſt, and are inſerted into the baſis or bottom of the Shoulder-blades, by very ſtrong Tendons, which fix them to the Ribs. Theſe draw the Shoulder-blades ſomewhat upwards and backwards. Many of the Shoulder-lameneſſes in Horſes proceed from Strains or other grievances and defects in theſe Muſcles.

The Shoulder, *viz.* that part which reaches from the point of the Blade to the Elbow, has nine Muſcles, which ought alſo to be well conſidered in all the lameneſſes of the Shoulder; for the articulation of the Shoulder, and the diſpoſition of the Muſcles in Horſes, is ſuch, that the Shoulder can hardly

be diſlocated, as in men; and if it ſhould happen ſo at any time, it could ſcarce ever be remedied; for though a Horſe will ſometimes appear with a very violent ſtrain, as if his Shoulder-joint was out of place; yet this is only owing to the ſudden relaxation of the Muſcles and Ligaments, and the influx of the blood and juices in ſuch quantity, as not only ſwells and miſhapes the part, but renders it incapable of its true motions; and therefore the mechaniſm of the Shoulder, and Shoulder-blades, ought to be well underſtood by thoſe who practiſe Farriery.

The firſt of the Shoulder-muſcles riſes from the Collar-bone, and paſſing over part of the Blade, is inſerted into the Shoulder-bone about its middle. This Muſcle helps to lift the Shoulder upwards. The ſecond riſes from the Spine or Ridge of the Shoulder-blade, and is inſerted into the Neck of the Shoulder-bone, by a ſtrong and broad Tendon. This alſo helps to raiſe up the Shoulder, and both give their aſſiſtance in its circular motions, ſo far as it is capable. The two Depreſſors pull the Shoulder downwards. The firſt has its origin from the *Os Sacrum*, near the Rump, from the Haunch-bone and Rack-bones of the Back, and, with its fellow on the other ſide, ſpreads over a great part of the Back; from whence it is called *Latiſſimus Dorſi*, or the broadeſt Muſcle of the Back. The other riſes from the lower ſide of the Shoulder-blade, and is inſerted into the upper and inner ſide of the Shoulder-bone. The two pair that bring the Shoulder forward, are the pectoral Muſcles, and thoſe which Signiors Ruini and Snape improperly call the *Cariocoidei*, in regard a Horſe, nor ſcarce any other quadruped, has that Proceſs which in men is called *Cariocoideus*. It riſes from the anterior part of the Blade-bone, near its brim, and is inſerted into the middle of the Shoulder-bone. The pectoral Muſcles are ſo called, becauſe they cover moſt of the Breaſt, and are inſerted into each Shoulder-bone a little below their round Heads. The remaining three Muſcles move the Shoulder backwards. The firſt has its origin from under the Spine of the Blade-bone, and is inſerted into one of the Ligaments of the Shoulder-bone. The ſecond is placed between the Shoulder-blade and Ribs, and is inſerted into another Ligament of the Shoulder-bone. The laſt riſes from the lower Angle of the Blade-bone, and is inſerted into the Neck of the Shoulder-bone.

The motions of the Shoulders in Horſes, and in moſt quadrupeds, are more limited than in men, their chief action being forwards and backwards, wherein they have a capacity of being raiſed higher or lower, according to their ſeveral Requirements. A Horſe's Shoulders alſo move a little ſpace outwards and inwards, which is neceſſary to their going on uneven ways. They have

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likewiſe ſome capacity of a circular rotation, which, however, is but ſmall, and when a Horſe performs any thing by ſuch motions, it is, for the moſt part, more owing to art than to nature, *viz.* when his Shoulders have been well ſupled by a good horſeman, that is, when the Muſcles and Ligaments have been ſtretched, and rendered pliable, by a ſkilful management of the rider in long continued exerciſe; and therefore, when a Horſe is brought to perform any of thoſe genteel eaſy airs, which we obſerve in the Manage, eſpecially when they go through their exerciſes in narrow circles; though the Shoulders have a great ſhare in theſe exerciſes, and ſome Horſes are much more ſuited to them, by the ſymmetry of their Shoulders, than others, yet all the Joints of the Neck, Back, and Loins, muſt alſo contribute more or leſs thereunto. The Shoulder-blades of a Horſe lie like two ſhields on each ſide, which confines the actions of his Shoulders very much to ſtreight motions; whereas, in men, they are placed behind, ſo that they leave the actions of the Shoulders and Arms without ſuch reſtraint. In a Horſe, the Collar-bone is fixed, and in a great meaſure immoveable; but, in man, it is articulated with the Shoulder-blade, and participates more or leſs in all its motions; whereby a man is enabled to turn his arms ſeveral different ways; for which motions quadrupeds have no proper capacity.

The Muſcles of the Fore-leg.

The Fore-leg is raiſed upwards by two Muſcles. The firſt takes its beginning from the upper brim and anchor-like Proceſs of the Blade-bone, the ſecond from the middle of the Shoulder-bone, and are both inſerted into the inſide of the Knee, a little above the Joint. Two Muſcles alſo extend the Leg, and bring it ſtreight; one of which has its origin from the lower edge of the Blade-bone, and the other from the Shoulder-bone, and are both inſerted into the outſide a little above the Knee. Theſe, with two other ſmall Muſcles, compoſe the fleſhy part of the Arm, which reaches from the Elbow to the Knee, and perform all the motions of the Fore-leg, falling ſhort of the number of Muſcles that are in the arm of a man, a Horſe having but one Bone, and but two perfect motions; whereas, in a man, there are two Bones, the *Radius* and *Ulna*, by which the Hand and Arm are turned various ways; and therefore require more Muſcles to perform ſo many different actions.

Of the Shank.

The Shank, which reaches from the Knee to the Paſtern, has two Muſcles that bend the Knee, and two that extend it. The Benders riſe from the inner knobs of the Shoulder-bone, and, paſſing beyond the Knee on the inſide, are inſerted into the hinder-part of the top of the Shank. The Extenders derive their Origins from the outer-knob or proceſs of the Shoulder-bone, and their Tendons, paſſing over the Knee, are inſerted into the fore-

part of the Head of the Shank, and, with the Ligaments to which they adhere, compoſe the tough ſubſtance that covers the Knee. Theſe extend the Leg, when a Horſe puts his Leg out ſtreight, or ſtands on the ground.

Of the Fore-Paſterns, &c.

THE Fore-paſterns, and Coffin-joints, have only, as the Leg and Shank, two Flexors and two Extenſors; theſe being ſufficient for all the motions of the Feet; and, that theſe motions may be the more perfect and ſecure, the Benders, or Flexors, are ſo contrived, that the firſt reaches from the Shoulder downwards to the hinder-part of the Paſtern-joint, where it is inſerted. The Tendon of this Muſcle forms the Back-ſinew of the Fore-leg. The other takes its origin from the upper part of the Cubit, or Shank-bone, and is inſerted into the Coffin-bone. The firſt that extends the Paſterns, ſprings from the outer knob of the Shoulder-bone, and is inſerted into the fore and outer part of the Paſterns, and into the Coffin-bone. The other riſes fleſhy, from the inner knob or proceſs of the Shoulder-bone, but ſoon grows into a ſlender Tendon, which deſcends to the bottom of the foot, where it has a fleſhy expanſion under the Sole, which is often attended with exquiſite pain, when it happens to be bruiſed or hurt.

TOWARDS the Inſtep forwards, and in the bending of the Paſtern behind, is a ſmall but ſtrong Ligament, like a ring, under which the Tendons of the Muſcles, that paſs to the Paſterns and Coffin-bone, are ſecured, ſo as to preſerve their motions; which, conſidering the great length of theſe Tendons, would be much weaker, and ſcarce of any uſe, without ſuch a contrivance.

The Muſcles of the Hind Parts.

As to the Muſcles of the hind parts, they are not only more numerous about the Hips and Loins, than about the Shoulders, a Horſe having a greater diverſity in his motions behind than before, but are alſo endowed with greater force; and this ſeems to be the more neceſſary, becauſe many of the Services required of them depend very much on the ſtrength and activity of the hind parts. Alſo it may be obſerved, when a Horſe is under no reſtraint, but at his full liberty, always makes uſe of his Heels for his defence, wherein he exerciſes ſuch ſtrength and force, when he laſhes out, as is ſcarce to be imagined.

The Muſcles of the Thigh.

THE Thigh, which reaches from the Huckle or Whirle-bone to the Stiffle or Knee-pan, is moved by ſeveral Muſcles. Three bend the Thigh forwards, or lift it upwards, *viz.* when the Stiffle is raiſed towards the Belly, and three draw it backwards. The Thigh is alſo turned inwards by one Muſcle, which has ſeveral origins, and is turned outwards by four Muſcles. The firſt of the Benders of the Thigh riſes from the tranſverſe Proceſſes of the lowermoſt Vertebræ of the Cheſt, below the Withers, and two or three uppermoſt of the Loins, and is inſerted by a ſtrong round Tendon into the

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fore-part of the leſſer Head of the Thigh-bone. The ſecond riſes from the Share-bone, and is alſo implanted, by a ſtrong round Tendon, into the leſſer Head of the Thigh-bone, near the Stiffle. The third, and all the other Muſcles of the Thigh, except the two laſt that turn the Thigh obliquely, have their origins from the Hip-bones, Rump, and Os Sacrum; ſome from their outſides, others from their inſides, ſome from a higher or more diſtant derivation, and ſome have a nearer origin, and are all inſerted either immediately above the Stiffle, or at the very extremity of the Thigh Bone. The inſertion of theſe Muſcles being more at the extremity of the Thigh Bone in a Horſe than in Man, ſeem the more neceſſary, becauſe by this means they are able to move a greater weight, and lift the Thigh higher, than if their inſertions had been more upwards into the Neck of that Bone. Beſides, the Thigh Bone of a Horſe is much ſhorter in proportion than in Man, and therefore requires this ſort of Mechaniſm in the inſertion of theſe Muſcles, to perform all the ordinary motions of the Thigh. Theſe compoſe the fleſhy part of the Hip, eſpecially thoſe that anſwer to the *Gluteus externus*, *internus* and *medius*, and ſome of them have very ſtrong Fibres, and paſs over the Whirl Bone and Hip Joint, to which they are a very great ſecurity. The laſt pair that turn the Thigh obliquely, riſe the one from the outer circumference of the hole of the Iſchium, and the other from the inner circumference, and are both inſerted near the great Rotator of the Thigh, being like a ſtay to prevent any irregular motions in the other Muſcles.

Of the hind Leg.

THE Leg has three ſeveral Motions, *viz.* it is extended by five Muſcles, bended by four, and moved obliquely by one ſingle Muſcle. The Leg comprehends that part which we uſually term the Thigh in a Horſe, which reaches from the Stiffle to the Hock.

THE firſt of the five Muſcles that extend the Leg is broad and thin, covering the greateſt part of the other Muſcles of the Thigh, by a membranous Expanſion, which takes its origin from the upper part of the *Os Ilium*, and ſpreading over the Stiffle, is inſerted into the upper and fore-part of the *Tibia* or Leg Bone. The ſecond riſes near the firſt, and is alſo inſerted into the Leg Bone forwards a little below the Stiffle. Theſe two take their courſe ſomewhat obliquely, but the third has a ſtreight direction along the fore-part or edge of the Thigh, till it reaches the Stiffle, where it turns into a broad and ſtrong Tendon, that adheres cloſely to that Bone in its paſſage over it, and is inſerted into the upper head of the Leg Bone. The remaining two are the largeſt, and make up the chief bulk of the Thigh on each ſide, the firſt ariſing from the great Trochanter and neck of the Thigh Bone, and the other from the leſſer Trochanter. The Tendons of theſe two Muſ-

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cles alſo paſs over the Stiffle, and unite with the former, and are inſerted into the upper part of the Leg Bone, the one towards the outſide, and the other towards the inſide. The Tendons of theſe Muſcles, eſpecially of the laſt three, compoſe that ſtrong Cap or cover which lies over the Knee Pan, bracing it ſo firmly, that it is almoſt impoſſible to diſplace it. Theſe Muſcles not only extend the Leg ſtreight, but when ſome of them act ſingly, turn it a little ſideways.

The two firſt Benders of the Leg, make up the bulk of Fleſh that is on the hind part of the Thigh. They both ariſe from the knob of the *Coxendix* or Rump-bone, and are inſerted backwards, below the bending of the Leg, behind the Stiffle, one on each ſide. The third riſes near the firſt and ſecond, and the fourth from the middle of the Share-bone, and paſſing downwards between the other two, are inſerted into the back part of the Leg-bone towards its middle, which gives it the force that is neceſſary to lift up the Leg, ſo as to bring the Hock towards the Hip. When theſe Muſcles act together, they draw the Leg directly backwards, but when they act ſingly, eſpecially the two firſt, they incline it to this or that ſide. There is beſides a fifth Muſcle, which contributes chiefly to the oblique motions of the Leg, which riſes broad and nervous from the outer Head of the Thigh-bone, and paſſing obliquely down the Thigh, is inſerted into the hinder part of the upper prominence of the *Tibia* or Leg-bone.

Of the Inſtep.

The Muſcles of the lower part of the Leg or Inſtep, come next to be deſcrib'd. The Inſtep comprehends all that part which reaches from the Hock to the Paſtern Joint, uſually called the Small of the Leg. It has three ſeveral Motions, *viz.* it is bended, extended, and moved a little ſideways. A Horſe bends his hind Legs when he goes on his Haunches, or when he liſts up his hind Legs in any kind of Motion, and this is performed chiefly by two Muſcles. The firſt riſes fleſhy, from the upper Appendage or Apiphiſis of the Leg-bone, a little below the Stiffle, cleaving cloſe to that Bone in its deſcent, and paſſing beyond the griſly part of the Hock, is divided into two ſmall Tendons, that are inſerted into the foreſide of the Inſtep-bone, whereby it raiſes the Inſtep and Foot upwards, at which time the Hock is alſo bended. The ſecond takes its origin likewiſe from the upper Appendix of the Leg, a little below the Stiffle, and is inſerted into the outſide of the Inſtep-bone, by which it aſſiſts the other in raiſing the Inſtep and Foot upwards, and alſo inclines it ſomewhat outwards. The Muſcles that extend the lower Leg and Foot, are three in number, and make up the greateſt portion of Fleſh, which reaches from the Stiffle to the Hock, and which is uſually named the Thigh of a Horſe. Theſe three Muſcles anſwering both

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in their number, reſemblance and uſe, to thoſe of the Calf of a Man's Leg; the firſt riſes by two beginnings, from the inner and outer Head of the Thigh-bone, and correſponds with the *Gaſtrocnemius externus*, and the ſecond with the *internus*, which lying under the firſt, both their Tendons unite with the third, which anſwers to the *Plantaris*. The Tendons of theſe three Muſcles joining together form the maſter Sinew, which is implanted into the back part of the Ham or Heel of the Hock, and anſwers to the *Tendo Achillis* in the human Heel. By theſe three Muſcles a Horſe extends his Leg, and ſtretches it out ſtreight. The laſt of theſe, *viz.* the *Plantaris* or Muſcle of the Sole or Tread, leaves the other two at the Heel of the Hock, and paſſing ſinewy along the hind part of the Inſtep-bone and Paſtern, is braced down at the bending of the Heel by the Annular Ligament, and then turning fleſhy, is ſpread all over the bottom of the Foot under the Sole, in the ſame manner as the *Palmaris* abovementioned, in the Deſcription of the Fore Foot. The two Muſcles that move the Leg and Foot ſideways, have their Origins, the firſt from the upper end of the Leg-bone below the Stiffle, its uſe being to turn the Foot inwards, and the other riſing from the hinder part of the ſame Bone, and paſſing along the outſide of the Hock, is inſerted into the Coffin-bone, and turns the Foot obliquely outwards.

Of the hind Paſterns and Coffin Joint.

The laſt of the Muſcles, are thoſe that bend and extend the Paſterns and Coffin-joint. The Benders are two, the firſt riſes from the upper and hinder part of the Leg-bone, and paſſing down the Inſtep and Paſterns, is inſerted into the Coffin-bone; the ſecond riſes a little below the Hock, and is alſo inſerted into the Coffin-bone. Theſe bend the Paſterns and Coffin backwards. The Extenſors are alſo two, the firſt riſes from the inſide of the Shank a little below the Stiffle; the ſecond from the fore-part of the Annular Ligament, on the upper part of the Paſtern-joint, and are both inſerted into the Coffin-bone; theſe extend the Foot, and plant it ſtreight upon the Ground. The number of Tendons, Nerves, and Blood Veſſels inſerted into the Coffin-bone, occaſions many untowardly accidents in the Feet of Horſes, which ſometimes cannot be eaſily cured without the ſevereſt Treatment.

CHAP.

CHAP. III.

Of the Hair, Cuticula or Scarfskin, the Cutis or Hide, the fleshy Pannicle, and other Integuments of the Body of a HORSE.

The Hair. I Need not detain the Reader with any Curiosities about the Hair, since every one knows, that the Hair is not only a Defence, but an Ornament, especially to those fine Horses that have good Manes and Tails. The Hair is thought to be produced of Moisture; and it may be observed, the Hair is thicker, and lies smoother in young Horses, than on the old that have less moisture; and when the Skin has been wounded, burnt or scalded, so as to alter its Texture by contracting the Fibres into a smooth, glossy Scar, or cicatrix, the part either remains altogether bare, or if any Hair grows, it generally comes white, and not so strong and thick as on the other parts, that have received no Injury.

The *Cuticula* or Scarfskin. THE Cuticula or Scarfskin, is the uppermost cover thro' which the Hair grows. It is extended over the whole Skin, and is that which rises into a Blister, when any part has been burnt or scalded, and when the Blood in the external parts happens to be inflamed to any extraordinary degree, as in the Farcy, and other Distempers of the Skin. The Cuticula has been observed by Glasses, to be made up wholly of Scales, which are full of poruli or little Holes infinitely small, for the passage of the perspirable matter in Transpiration, which Discharge is so necessary to the preservation of Health, that when these Pores are stop'd by Colds or any accident, Fevers and other sicknesses generally ensue. The Cuticula seems to be form'd of a Mucus, or Moisture that comes from the Skin, condens'd by the Air, and as it is chiefly made of excrementitious Matter, it is by that means insensible of Pain, or any other sensation. And whatever pain or feeling of any kind, is in an animal Body, is transmitted thro' it by reason of its rare and exquisitely fine Texture.

The *Cutis* or Hide. THE Cutis or Hide which lies under the Cuticula, is a strong membranous substance, made up of compact Fibres laid close together, and is susceptible of Pain upon the least touch, when the Cuticula or Skarfskin is any ways fretted or rub'd off, by reason of the innumerable branches of Nerves, which are distributed over its whole surface. Beneath the Skin are seated

the miliary Glands, which are exceeding ſmall and numerous, and ſeparate the ſweat which riſes like a dew, thro' the Pores of the Skin and Scarfſkin.

Horses, and ſeveral other large Animals, have beſides the *Cuticula* and Skin, a fleſhy expanſion, which lies immediately under the latter, called the fleſhy Pannicle, and is made up of muſcular Fibres, whereby the Skin is moved and drawn into Wrinkles, to ſhake off Duſt, Flies, or any thing elſe that hangs looſe upon the Hair. It is moſt thick and diſtinct over the Ribs, Flanks, Sides of the Belly, as alſo on both ſides the Neck, but adheres ſo to the Skin, that it is ſcarce to be diſtinguiſhed from it, but where the Skin is looſe and moveable. It is alſo a great defence, and ſerves to keep a Horſe warm in very cold Weather.

Underneath the fleſhy Pannicle lies the *Membrana Adipoſa*, made up of little Cells filled with Fat, and in ſome diſeaſed Horſes are very much diſtended with Water. Theſe Cells ſeem to have communication one with another, or at leaſt their Membranes are ſo thin, that they are eaſily ſeparated and laid open one into another, which may be perceiv'd, by blowing into them with a blow Pipe; and I have known Horſes ſtak'd near the Briſket, where the Wounds being pretty large, have drawn in ſuch a quantity of Air, that it has filled the whole body to a very ſurpriſing degree, which were recovered firſt by a plentiful diſcharge of Air and Water, and at laſt of well digeſted Matter. This Membrane is thickeſt on the lower Belly and Hips, between the Interſtices of the large Muſcles, and in ſome very fat Horſes; it is alſo pretty thick on the Neck and Cheeks, but grows thin about the Limbs, and other bony and dry parts. The uſe of this Fat is various, it ſerves to warm and comfort the Parts to which it adheres, to lubricate the Muſcles, ſo as to preſerve them from being abraded and worn by their frequent Motions, for every one knows that a Horſe always indures labour the better when he is in Fleſh, and has a moderate degree of Fat, but when a Horſe is over-loaded with Fat he moves heavily, like a piece of Clock-work that has been too much oil'd; for the ſame that helps to keep the Fibres of the Muſcles moiſt and pliable, and fit for action, when it ſuperabounds, relaxes and clogs their Motions. Beſides this uſe of the Fat, it is probable, ſome portion of it is drawn back into the Maſs of Blood, perhaps to preſerve it from viſcid Coheſions, and I am the more apt to think there is ſuch a communication, becauſe I have obſerv'd the Blood Veſſels extremely filled with Fat in Horſes, that have dy'd ſuddenly after violent exerciſe in hot Weather, whereof I ſhall give ſome account in the enſuing part of this Treatiſe.

The common Membrane of the Muſcles.

THE laſt or innermoſt cover, which ſome have reckoned among the Integuments, is the common Membrane of the Muſcles, from a ſuppoſition, that all the Muſcles of the outward parts of the Body, are wrap'd up in one Membrane, that ſerves as a common cover to the whole, but this cannot be eaſily diſtinguiſhed from the proper Membranes of the Muſcles, which have all of them a communication one with another, by innumerable little Filaments or Threads, and as the lateſt Anatomiſts have taken little notice of any ſuch Membrane, it will be unneceſſary to detain the Reader, with the uncertain Deſcriptions that others have given of it.

CHAP. IV.

Of the Parts contained in the Lower Belly.

The Peritonæum.

THE firſt thing that offers to view in opening into the Lower Belly, is the *Peritonæum*, a double Membrane of an oval Figure which covers the whole Guts. Its inſide is ſmooth, and lined with a Mucus, which helps to keep the Guts moiſt; from this all the parts of the Lower Belly are furniſhed with their proper Membranes. It has ſeveral Ligaments, by which the Guts are ty'd in their proper ſituation, which preſerve them from being intangled by violent motions, and it alſo affords a ſtrong Ligament to the Liver; and within its Duplicature are a vaſt number of Veſſels, which have communication with all the parts of the lower Belly.

The *Omentum*, or Caul.

THE *Omentum* or Caul, is a double, thin, tranſparent Membrane, interlarded with Fat, which both ſerves to keep the Guts warm and to moiſten them. It adheres to the bottom of the Stomach, to the Spleen, and hollow ſide of the Liver, to the Gut Colon, the Sweetbread, and to the beginning of the ſmall Guts, and is embroidered with a great number of Veins and Arteries, that communicate with the Stomach, Spleen, and Guts, &c.

Gullet.

THE *Gullet* paſſes from the Mouth to the Stomach, and therefore cannot well be ſeparated in its deſcription, from the parts of the lower Belly; it penetrates thro' the opening, or hole of the Midriff, and enters the Stomach on its left ſide. It is compoſed of three Coats, the outer, and innermoſt membranous, and the middle Coat muſcular. The Stomach has alſo the ſame number of Coats, the external membranous, the middle muſcular, and the innermoſt alſo membranous, full of ſmall Glands, which ſeparate a Mucus to keep it from growing too dry, that would be a hindrance to Digeſtion, which

which ſeems to be partly perform'd, by the Liquids ſeparated from the Glands of the Mouth in chewing, by the Liquids of the Stomach itſelf, and partly by its muſcular Action, whereby it is alternately contracted and dilated, as all other muſcular parts are. When the Stomach is contracted, the innermoſt Coat is drawn into Folds, which are plain to be ſeen in the Stomach of a Horſe, and theſe Folds increaſe as the Stomach empties itſelf, by which it retains the Aliment longer in the latter part of Digeſtion, than after feeding.

The Guts. THE Guts are according to *Ruini* and *Snape*, reckoned ſix in Number, *viz.* The ſmall Gut, which in a Man is divided into the Duodenum, Jejunum, and Ilion, and in a ſizeable Horſe is about twenty-ſix yards in length. The *Cæcum* or Blind Gut, the three Colons, and the Streight Gut. The Blind Gut, which in a Man is not much bigger than a Gooſe Quill, or a common Earth Worm, in a Horſe is pretty large, and of a triangular Shape, and ſeems only like a Valve to retain the Aliment, that it may not paſs too haſtily downwards into the other Guts, before the Body has received its proper Nouriſhment from it. The three Colons are divided by two ſmall Necks, of about half a yard in length each. This Gut is drawn up into ſeveral *Sacculi* or Purſes by two Ligaments, one of which runs along the upper ſide, and another along the underſide, which with a Valve at the entrance, ſerve alſo to detain the Aliment, until the nutritious Juices are wholly extracted from it. The Colons reach to the Streight Gut, which is ſo called becauſe it goes in a ſtreight line, without any circumvolution, or turning along the inſide of the Back to the Fundament, and is only about half a yard or little more in length. Its Coats are conſiderably thicker than the Coats of the other Guts, the middlemoſt being fleſhy and muſcular. All the Guts are lined on the inſide with a Mucus, that preſerves them from being hurt by the roughneſs of their Food, or the acrimony of ſharp Humours. They have alſo ſeveral ſmall Glands or Kernels, that ſeparate continual ſupplies of Moiſture, tho' theſe are ſo ſmall, that they are ſcarce to be perceived even in a Horſe, except about the extremity of the ſtreight or great Gut.

The Meſentery. THE Guts are faſtened to the Back by the *Meſentery*, which in a Horſe is about nine Inches broad from the Guts to the Back, taking its riſe from the third *Vertebra* of the Loins, and is made up of three Membranes, the middlemoſt of which is full of ſmall Glands and Blood-veſſels. At its riſe it is gathered together in a great many Plaits or Folds, which being open in that part to which the Guts adhere, cauſes them to lie in thoſe circumvolutions and turnings, wherein we always obſerve them, which not only ſerves to hinder the too ſudden deſcent of the Aliment, but

prevents any total obſtruction or twiſting in them, which conſidering their great Length, might eaſily happen if they were not thus ſecured. But the Meſentery is ſtill of further uſe, in regard the finer part of the Aliment is carry'd in certain veſſels, that take their courſe from the ſmall Guts acroſs this Membrane, in order to its conveyance into the Blood. For when the Food is ſufficiently digeſted in the Stomach, it falls into the firſt Gut, where it is further attenuated by a mixture of Bile from the Liver, and of the pancreated Juice from the Sweetbread. The finer part thereof being chang'd into a white ſubſtance like Milk, call'd Chyle, is ſtrain'd from the courſer Aliment, by the force of the Midriff and Muſcles of the Lower Belly, into the above-mentioned veſſels called the *Lacteal* or milky Veſſels. Theſe are very ſmall, and ſcarce ever to be ſeen but in Animals opened alive immediately after feeding, where they appear like white Hairs running all acroſs the Meſentery. By theſe the Chyle or milky Subſtance is carry'd into a ſmall receptacle, and from thence convey'd thro' a little Tube or Pipe, called the *Thoracick Duct*, upwards along the Thorax or Cheſt, which has ſeveral Valves to forward its paſſage, and prevent its return back again. From the Thoracick Duct, the Chyle is emptied into the ſubclavian Vein under the Collar-bone, where it mixes with the Blood, and paſſes from thence to the Heart. There are alſo a great number of lymphatick Veſſels, which empty a pellucid fine Water or Lymph, from the lymphatick Glands that are placed in almoſt all parts of the Viſcera, and is mixed with the Chyle in its paſſage at ſeveral openings, whereby it is further attenuated and rendered more fit to incorporate with the Blood, ſo as to paſs the more readily thro' all the minuteſt Veſſels in its courſe of Circulation. The Aliment having the finer Parts or Chyle thus ſtrain'd from it by the Midriff and abdominal Muſcles; the remainder being turned into Dung, is by the ſame force and periſtaltick Motion of the Guts preſſed downwards to its ejectment.

The *Lacteal* or Milky Veſſels, with the Courſe of the Aliment.

The Liver.

The Liver is a glandular Subſtance, and by far the largeſt that is to be met with in the animal Body. It is of a duſky red colour, and in ſome places a little variegated or ſhaded. It is ſeated on the right ſide of the Belly immediately under the Midriff. In a Horſe it is divided into four Lobes, whereby it is preſerved from being hurt by any violent Motion. The right Lobe is by far the largeſt. The outſide is convex, and its inſide concave or hollow, to make way for that Portion of the Stomach and Guts which lie under it. The upper part is much thicker than its lower, and all its Edges extremely ſmooth, ſo that it can be no ways hurtful to the other Viſcera. It is alſo ſecured by Ligaments, one from the Midriff, a ſecond, or a portion of the ſame, from the Breaſt-bone, by which means it can neither

ther fall downwards nor ſideways, and the Umbilical Vein whereby the Fœtus is nouriſhed, becomes its ſuſpenſory or third Ligament, ſo that it can neither puſh forwards in galloping or going down hill, nor preſs too hard upon the ſoft parts that lie under it. The Liver has one peculiar Veſſel called the *Vena porta*, that receives Blood from the Veſſels of the Spleen, Sweetbread, and Guts, which is diſperſed thro' its whole Subſtance, and emptied into the *Vena Cava* that returns it to the Heart. It has alſo its proper Veſſels by which it is nouriſhed and maintain'd. One uſe of the Liver is to warm and comfort the lower part of the Stomach, and other *Viſcera*, and may in ſome meaſure contribute to aſſiſt Digeſtion, tho' its chief uſe is for the ſecretion of the Gall. For tho' a Horſe has no Gall Bladder, as Oxen and moſt other large Animals, yet he has the *Porus Biliarius*, or Gall Pipe, very large, ſo as to ſupply the want of the other; and whoever becomes acquainted with his Diſeaſes, will find that Horſes abound as much with Gall as any other Creature, and are frequently in danger, either when the paſſage of the Gall is obſtructed, or when the diſcharge of it happens to be too profuſe. And therefore if a Horſe had a Gall Bladder, ſuch as ſome other large Animals, it might be greatly expoſed to accidents by the violence and quickneſs of his Motions, which would either prove mortal, or render him altogether uſeleſs.

The *Porus Biliarius* or Gall Pipe.

The Sweet-bread is alſo a large Gland or Kernel, that lies acroſs the upper and back part of the Lower Belly under the Stomach, to which it ſerves for a ſoft Pillow to reſt on. Its refluent Blood is convey'd into the *Vena Porta*, and it has a paſſage into the firſt Gut, a little way below the Stomach, where the pancreatick Juice is emptied by its proper Duct. The uſe of the Gall and the Liquor ſeparated from the Sweet-bread, has already been taken notice of.

The *Pancreas*, or Sweetbread.

The Spleen is placed under the Midriff, and above the left Kidney; it is ſomewhat oval, and flattiſh, and of a dark livid Colour; its texture is veſſicular, but its uſe is not yet perfectly known, tho' ſeveral Anatomiſts have publiſhed their conjectures about it.

The Spleen.

All that remains to be deſcribed in the Lower Belly, is the Kidneys, with the urinary and genital parts; wherein I ſhall but juſt mention the latter, the knowledge of which being but little required in the Diſeaſes of Horſes.

The Kidneys, &c.

The Kidneys are two in number, *viz.* the right and the left. The right lies under the Liver, and the left under the Spleen, ſo that it is ſeated a little higher than the other; they are both placed in the cavity of the Loins upon the two lowermoſt Ribs. Their uſe is to ſeparate the Urine, which is of great

great importance to the health and preſervation of Horſes, they being liable to many Diſeaſes, which either take their origin from faulty Kidneys, or have at leaſt ſuch Symptoms, as plainly ſhew the Kidneys to be more or leſs affected. The right Kidney of a Horſe is ſomewhat triangular, the left oval, the upper part larger than the lower. Each Kidney has a ſmall Cavity in the middle called its *Pelvis* or Baſon, into which the Urine diſtils from the *Glandules* on all ſides. From the *Pelvis* of each deſcends a Pipe or Ureter, which conveys the Urine from the Kidneys to the Bladder. The Bladder is compoſed of three Coats, as the Stomach and Guts, the outer and innermoſt membranous, and the middle Coat muſcular, which are all extremely thin, only that the muſcular Coat grows thicker towards its Neck, where there is a Sphinctre that opens and ſhuts the Paſſage at pleaſure. The Urine is convey'd from thence thro' the Yard, by a Pipe called the *Urethra*, which in a Horſe is pretty large. The *Glandulæ Renales*, by ſome called the *Capſulæ Atrabilares*, becauſe they contain a ſmall portion of a blackiſh Liquid, are ſmall, and ſeated above the Kidneys. Their uſe has never yet been determin'd, unleſs that they may have been of ſome benefit to the *Fætus* during the time of Geſtation, being then larger than the Kidneys, but rather diminiſh after the Birth.

The Genital Parts.

The Genital Parts of a Horſe are chiefly the Yard and Teſtes. The Yard or *Penis* begins with two ſeparate Bodies, that ariſe from the *Os Iſchium*, which unite under the *Pubis*, and are firmly connected by a Ligament; the fore part in a Horſe which anſwers to the Glans, is broad and thin. Its whole Texture is full of little Cells or Caverns, and is therefore capable of being eaſily diſtended or depreſſed, by the ſudden influx or reflux of the Blood. Underneath its cavernous part is the *Urethra*, wherein are ſeveral Glands that diſcharge a *Mucus*, to prevent its being hurt by the acrimony or ſharpneſs of the Urine, which would be very dangerous to a Horſe, becauſe of the thickneſs and largeneſs of the Sheath, that would be greatly inflamed by any exceſſive heat in the urinary Paſſage; the Sheath being a looſe membranous Subſtance, derived from the Integuments of the Lower Belly.

The *Teſtes* or Stones are ſeated in a *Scrotum* or Purſe, which alſo takes its origin and growth from the external parts. Their Subſtance is glandular, their uſe being to prepare the Seed for procreation, which is carried by proper Veſſels into the *Veſſiculæ Seminales*, where it remains till the time of Coition, when it finds a Paſſage into the *Urethra*. They have four Coats or Covers, and have proper Veins and Arteries, the chief of which, called the Spermaticks, communicate with the Veins and Arteries of the Kidneys, *viz.*

the Emulgents. Theſe Veſſels are convey'd within the outermoſt Coat of the Teſticles, called the *Tunica Vaginalis*, which incloſes them as in a Sheath, and proceeds from the *Peritonæum* above deſcrib'd, thro' Perforations in the form of a Ring, between the Muſcles of the Lower Belly, and are in this manner contriv'd, to prevent Ruptures of the Inteſtines, which otherwiſe would frequently happen in the human Body, but are ſo rare in Horſes by reaſon of their horizontal Poſition, that I have ſeen Burſtenneſs ſeveral times, tho' yet I never ſaw but one perfect Rupture into the *Scrotum*, which happened to a fine Arabian Stallion in covering an unruly Mare, and but few on the Navel, and theſe were cauſed by violent accidents. As to the Genitals of a Mare: The Mare has her *Matrix Ovaria* and other parts, that contribute to Conception and Nutrition of the *Fœtus*, which are much the ſame in moſt Quadrupeds, and have often been deſcrib'd by Anatomiſts, who have been curious in thoſe things that concern the Generation of Animals, and therefore I have the rather omitted them here, becauſe Mares are ſeldom ſubject to any accidents in thoſe parts, which may not be as well remedy'd by proper care, as by the uſe of Medicines.

CHAP. V.

Of the Parts contained in the Upper Cavity or Cheſt.

IN the upper Cavity or Cheſt is contained the *Pleura*, *Mediaſtinum*, the Heart and Lungs, with a glandular Subſtance called the *Thymus*, from its reſemblance to a Leaf of Thyme. This lies acroſs the upper part of the Breaſt, and is like a ſoft Pillow to the Lungs, eſpecially in Brutes, where it is conſiderably larger in proportion, than it is in Men, of which I ſhall take ſome notice hereafter.

THE *Pleura* is a very fine Membrane, that lines the whole inſide of the *Thorax* or Breaſt, the back part of it ſerving like a Duplicature, to cover and incloſe the great Veſſels within it, that retain to the Heart and Lungs, as its exquiſite ſmoothneſs preſerves the Lungs from being hurt in their continual Dilatations. This Membrane is always thought to be the Seat of the Pleuriſy in Men, tho' I cannot ſay I have ſeen it often much affected in a Horſe, even where the Lungs have been rotten or inflamed. *The Pleura.*

THE *Mediaſtinum* is a Membrane which divides the Cavity of the Breaſt like a Partition in two halves. In Men it is double, but in a Horſe ſeems undivided, or at leaſt is ſo cloſe that it cannot be eaſily ſeparated. Its chief *The Mediaſtinum.*

uſe

uſe is to keep the two Lobes of the Lungs ſeparate and aſunder, eſpecially in lying on one ſide, a Poſture in which Horſes often lay themſelves to ſleep.

The Lungs. THE Lungs or Lights (which is their vulgar Name) conſiſt of two Lobes that fill up the greateſt part of the Cheſt, having the *Mediaſtinum* between them. In ſome Quadrupeds each Lobe is ſubdivided into ſeveral ſmall Lobules, in the ſame manner as their Livers, but not ſo much in a Horſe, as in other Animals that have a greater variety of Motions; which perhaps may be the reaſon, why Horſes Lungs are ſo eaſily inflamed with hard Exerciſe, and with every great Cold. The *Aſpera Arteria*, or Windpipe, which begins with the Larynx behind the Root of the Tongue, deſcending along the fore-part of the Throat, is branched out into the Lungs. This Pipe is compoſed of circular Rings of Cartilage or Griſtle, which ſurround it about two thirds, the back part being a plain Section, ſmooth and even, that it may not incommode the Gullet, which takes its courſe immediately behind it, and upon which it lies. Between the Rings is a fleſhy Membrane on which they are fixed, which alſo compoſes the back part towards the Gullet. This being muſcular, and the Rings cartilaginous, give it a ſpring of Action, whereby it contracts and dilates, ſo as to correſpond with all the Motions of the Neck and Breaſt. At its entrance into the Cheſt, it is divided into two principal Branches called its *Bronchia*, and is afterwards ſubdivided into innumerable other Branches, the Extremities of which, compoſe an infinite number of ſmall Cells or Air Bladders, which with the Ramifications of the Veins, Arteries, Nerves and Lymphaticks, make up the whole Maſs or Subſtance of the Lungs. Theſe Cells or Veſſicles are always filled with Air, and diſtended in Inſpiration, and are empty and ſunk in Expiration, and receive from the Blood Veſſels a quantity of Lymph or perſpirable Matter, which not only keeps the Lungs from drying, but makes a large and neceſſary Diſcharge from the Blood, as we may eaſily perceive from the Breath of all Creatures in froſty Weather, or when we ourſelves breathe upon a Glaſs, or any poliſhed Metal or Stone. The Lungs may juſtly be reckoned among the principal Organs of the Body, if not the chief of all, as they are ſo well adapted in every reſpect to receive the Air, without which, we cannot ſupport Life one Moment, and are no leſs fitted to purify the Blood by their continual Action, and by making ſuch ample Diſcharges, as are neceſſary for the preſervation of Health, as well as of Life. Beſides that they are the chief Inſtruments of the Voice in all Creatures, and by drawing in the *Effluvia* thro' the Noſe, contribute greatly to the ſenſe of Smelling.

The *Pericardium*, or Heart Purſe. THE *Pericardium* is a very ſtrong membranous Subſtance, which incloſes the Heart like a Purſe. It is not only of uſe to defend it from the Frictions of

of the Lungs, but contains a Moiſture which keeps it cool, and renders its Motions glib and eaſy.

The Heart.

The Heart is a Muſcle of a Conick Figure, *viz.* broad at bottom and narrow at top. In a Horſe it is not near ſo large as in a Bullock, nor proportionably ſo broad towards its Baſis. Its Fibres are very compact and laid cloſe together, having a twiſted or ſpiral Direction, eſpecially towards its Top, where it ſomewhat reſembles the contortion of a Snail's Shell. It is fixed to ſome of the *Vertebræ* of the *Thorax*, or Rack-bones of the Breaſt, by the large Veſſels that go to and from it. Its point inclines a little downwards towards the left Side, where it is received into a Depreſſion of the left Lobe of the Lungs, which perhaps may be form'd in the *Fœtus* by the poſition of the Heart, before the Lungs have been filled with Air. The Heart is nouriſhed and maintained, by its own proper Veſſels called the *Coronariæ*, in regard they ſurround its whole Subſtance like a Crown or Garland. It has a middle Partition, which divides it internally into two Ventricles; the left is ſmaller than the right, and its Sides much thicker, its Office being to drive the Blood to the moſt diſtant parts thro' the whole Body, whereas the right Ventricle detaches it only thro' the Lungs. Its inſide has ſeveral ſmall Chords or Compages of Fibres, called *Columnæ Carneæ*, which reſemble the Bundles of Columns which we perceive in Gothick Buildings, and help to comminute, and break the groſſer parts of the Blood, in the frequent Contractions of the Heart. The Contraction and Dilatation of the Heart, is called its Syſtole and Diaſtole. The firſt when the *Vertex* or Top of the Heart is drawn down to its Baſis, to ſend the Blood into all parts, and the latter, when it opens and dilates itſelf to receive the refluent Blood. The Heart has its Auricles, which are ſo called becauſe they reſemble two Ears, and are ſeated at its Baſis, one on each ſide, to receive the Blood at its entrance into the Heart; the right from the aſcending and deſcending Trunks of the *Cava*, and the left from the pulmonary Veins, by which it enters in due Portions, and ſo as it may not ruſh in with too much violence, and in too great quantity, to interrupt the regular Action of the Heart; for when the Auricles are full the Heart is empty, and when the Heart is full the Auricles are empty. The Auricles in their Mechaniſm and Structure, ſomewhat reſemble that of the Heart, only that they are chiefly membranous, whereas the Heart is altogether fleſhy; for if it was tendinous in any part, as moſt other Muſcles are, it would be altogether unfit for its Office. Where the two Trunks of the *Cava* open into the right Auricle, there is a little Eminence or Riſing, which prevents the Blood of the aſcending and deſcending Trunks from ruſhing together, and cauſes it to ſlip more gently into

the Ventricle, and the Coronary Veins likewiſe opening into its Entrance with the refluent Blood from the Heart, may probably render this the more neceſſary. The large Veſſels which empty the Blood into the Heart, and thoſe that receive the Blood from it, have each of them *Valves*, whereby the Blood is forwarded in its Paſſage, but cannot return back the ſame way it came, *viz.* the *Vena Cava* which enters into the right Ventricle, has three, called *Tricuſpides*, being like ſo many Points of a Spear or Launce. Theſe point inwards, ſo as to open a free Paſſage for the Blood, into the right Ventricle of the Heart. The Pulmonary Artery, which receives the Blood from the ſame Ventricle into the Lungs, has alſo three *Valves*, called *Sigmoidiæ*, from their reſemblance to the Greek Letter *Sigma* Σ. Theſe look from within outwards, by which they hinder the Blood returning back again into the Heart. The Pulmonary Vein has two *Valves* called *Mitrales*, theſe have the ſame Office as thoſe of the *Cava* above deſcrib'd, being to hinder the Blood returning back again into the Lungs, and the *Valves* of the *Aorta* or great Artery, called *Semilunares*, have the ſame Office as thoſe of the Pulmonary Artery, *viz.* to prevent the Blood which by it is detached into all the other parts of the Body, from returning back again into the Heart.

The uſe of the Heart is ſufficiently deducible, from what has been already ſaid in its Deſcription, the Heart being the vital Fountain which receives the Blood from all the Rivulets of the Body, and diſpenſes it back again thro' its proper Channels, for the ſupport and nouriſhment of every part; and for that end, its Structure is very peculiar and different from all other Muſcles, eſpecially thoſe that move particular parts, for as theſe are partly fleſhy and partly tendinous, or have their fleſhy Fibres end in Tendons of a cloſer contexture, the Heart, on the other hand, is altogether fleſhy, and made up of Fibres ſo exquiſitely fine, and ſo cloſely compacted together, that it is, by that means, indowed with all the Force that is neceſſary for its Function, and its Baſis is the moſt compact of all its other parts, where probably its Fibres have both their Origins and Inſertions in the membranous Coats of the large Blood Veſſels to which it adheres: riſing ſpirally upwards, and turning again downwards archways, in the like direction over the Ventricles, which ſeems beſt to correſpond with its Dilatation and Contraction. But if we inquire by what means the Heart comes to be endow'd with ſuch a capacity of Action, wherein we ourſelves have not the leaſt ſhare, we muſt confeſs our Ignorance, and aſcribe this wonderful piece of Mechaniſm to the great Author of Nature. In other Actions we have ſomething voluntary, *viz.* we have power to move a Leg or Arm, or any other Member, but in the Action of the Heart, we and all other Animals are altogether paſſive.

paſſive. We know indeed, that the Nerves, which are plentifully beſtowed on the Heart, have a great ſhare in its continual Motion, which is diſcoverable by Experiments made in tying the Trunk of any Nerve, that diſpenſes its Branches upon a Muſcle, at what time the Muſcle will become paralytick and ceaſe to act until that Impediment is removed; but ſtill the Nerves are only inſtrumental, and therefore all that we know of this matter, muſt be reſolved into the ſame Original Cauſe.

I have ſeen the Hearts of Horſes frequently opened; ſometimes there happens; as in the human Body, collections of Matter within the *Pericardium*. I have ſeen Polipuſſes in the great Veſſels, and ſometimes a maſs of ſlippery Fat, eſpecially within the left Ventricle of Horſes that have dy'd ſuddenly, and ſometimes the Heart itſelf preternaturally large.

CHAP. VI.

Of the Blood-veſſels, *viz.* The Veins and Arteries with their Diſtribution into all Parts of the Body of a HORSE.

IT may be eaſily underſtood from what has been already obſerved in the Deſcription of the Heart and Lungs, that the aſcending and deſcending Trunks of the *Vena Cava*, the aſcending and deſcending Trunks of the *Aorta*, with the pulmonary Vein and Artery, the *Vena Porta* of the Liver, and ſome few others, are the principal and moſt remarkable of all the Blood-veſſels; that the Arteries carry the Blood into all parts from the Heart, and that it returns back again in the Veins, when it has taken its circuit and progreſs through the Body; therefore it remains only to ſhew in what manner both the one and the other are diſtributed, ſo as to perform that important Office, whereby all parts of the animal Body have their vital Supplies.

THE aſcending and deſcending Trunks of the *Vena Cava*, meet ſo as to open into the right Auricle of the Heart. The Auricle receives all the Blood from both the above-mentioned Trunks, which fills the right Ventricle of the Heart in its Diaſtole, and by its Syſtole empties the ſame Blood into the pulmonary Artery, which ſupplies the whole Subſtance of the Lungs by innumerable Branches: The ſmall capillary Branches of the pulmonary Vein, take up the Blood from the capillary Branches of the Artery, and theſe convey all the refluent Blood into one pretty large Trunk, which opens into the left Auricle, and this Auricle by its Syſtole or Contraction, diſgorges the Blood into the left Ventricle, which thruſts it out into the *Aorta*. This

The Diſtribution of the Veins and Arteries.

firſt of all ſends out two ſmall Branches to the Heart, *viz.* The *Coronariæ* above deſcribed, and then riſing a little archways, perhaps to leſſen the *Impetus* or Force of the Blood, as it immediately ruſhes from the Heart, it is divided into its two principal Trunks, *viz.* the aſcending and deſcending.

The aſcending Trunk of the *Aorta*, climbs up by the Windpipe to the upper part of the *Thorax*, where it ſends off the ſubclavian Arteries in two Branches, which run under the Channel-bones on each ſide. Theſe ſend off other Branches, both from their upper and under ſides, from their upper ſides the cervical Arteries, which are partly ſpent on the Muſcles of the Neck and Breaſt, and partly on the Thyroid Glands near the Windpipe. From the lower ſide of the Subclavian Arteries, proceed the ſuperior Intercoſtals, which paſſing thro' the Cheſt, ſend forth ſeveral Branches to the Fore Legs. Near where the Subclaveans go off from the *Aorta*, ariſe two other principal Branches, called the Carotid Arteries, which aſcend upwards towards the Head, where they form the *Rete Mirabile*, and *Plexus Choroides* upon the Surface of the Brain, which are plainly to be ſeen, and help to ſerve the Brain and its Membranes. The Carotids alſo detach ſeveral Branches to the Windpipe, the Larynx, and ſome to the Tongue, and lower Jaw, and others to the Scalp, and external parts of the Head. By theſe four principal Branches, *viz.* the Subclavian and Carotids, the whole Head and Neck, as alſo the external parts of the Cheſt and Fore Legs, are ſupplied with Blood.

The deſcending Trunk of the *Aorta*, as it approaches the Midriff, ſends forth the inferior Intercoſtals that go to the Ribs, with the bronchial Artery, that accompanies the Branches of the Windpipe in the Lungs, and when it has juſt paſſed thro' the Midriff it detaches other Branches, *viz.* the phrenick Arteries, which are diſperſed in the Midriff and *Mediaſtinum*. From the Midriff it reaches downwards as far as the laſt *Vertebra* of the Loins, but by the way ſends off ſeveral Branches to the Stomach and other Inteſtines, as the Celiack, Splenick, and upper Meſenterick, and below theſe the emulgent Arteries,, one on each Side, which go to the Kidneys, and underneath theſe ariſe alſo from the main Trunk the Spermaticks, which go to the Genitals, and laſt of all the lower Meſenterick, which with the upper Meſenterick, ſupply the whole Meſentery.

After this the *Aorta* or great Artery, reaching the top of the *Os Sacrum*, is divided into two Branches, one on each ſide, called the Iliacks, and theſe are again branch'd out into the external and internal. From the latter proceed thoſe called the *Muſculæ*, which are beſtowed on the Pſoas Muſcle, and other Muſcles of the Buttocks, as alſo the Hypogaſtricks that run to the

ſtreight Gut, the Matrix, the Bladder, *Proſtates* and Yard, and to all the parts contained within the *Pelvis*. From the external Iliacks ariſe the Epigaſtricks, which turning forwards, creep along the Rim of the Belly, where they meet the Mamillary above deſcrib'd. The next are the *Pudenda*, which go to the Privities of both Sexes, and thereby communicate with the Hypogaſtricks. Afterwards the Iliacks go to the Thighs, and as they paſs downwards are called the Crural Arteries, ſupplying the Hind Legs and Feet with many conſiderable Branches.

THIS being the general Diſtribution of the Arteries into the ſeveral parts of the Body, it is to be obſerved, that all the Branches are divided, and ſubdivided into ſmaller Branches, like the Boughs of a Tree, or the *Stamina* of Plants, by which all the parts of the Animal Body is overſpread with moſt minute capillary Arteries, and are ſo combin'd one with another, that when one or more ſmall Arteries happen to be obſtructed, the Blood that is by ſuch Obſtruction hindered in its Paſſage, is received and taken up into other communicating Branches, by which its Motion is preſerved, and the parts not depriv'd of their Support and Nouriſhment. The ſame Oeconomy is obſervable in the Veins, whoſe capillary Veſſels take their beginning like ſo many Drills or Rivulets, which empty themſelves into the larger Branches, and theſe at laſt into the aſcending and deſcending Trunks of the *Cava*, as into a main River, ſo that when the capillary Veins are divided or obſtructed, the communicating Branches carry off the Blood, ſo as to prevent any dangerous Stagnation, which by any other Mechaniſm might eaſily happen from very ſlight Accidents.

The Mechaniſm and Structure of the Veins and Arteries.

BUT as it is the peculiar Province of the Arteries to convey the Blood from the Heart, and diſtribute it into all parts of the Body, ſo they are perfectly fitted for that purpoſe by their Structure. The Arteries have three Coats, and the Veins the ſame number, (wherein they both agree with moſt other membranous Tubes;) but as the impulſe of the Blood from the Heart into the Arteries, requires a conſiderable ſtrength in them more than in the Veins, therefore their Coats are much thicker, the reaſon of which will appear by conſidering the Office of the Veins, for the capillary Veins receive the Blood where the arterial Impulſe is but ſmall, and its motion in the Arteries languid, and when the Blood upon its return has entered the Veins, its motion cannot much increaſe, as it is received from Veſſels that are ſmall, and paſſes into others that are larger; and indeed it could hardly move at all in ſome places, had not all things been wiſely contrived for that purpoſe, and therefore thoſe who have ſeen Diſſections muſt have obſerved, that wherever there is any conſiderable Branch of an aſcending Vein, there is generally a

Branch

Branch of an Artery underneath it or very near it, which by its continual Pulſation gives ſome help to the Motion of the venal Blood, and ſometimes, eſpecially on the Limbs, we may obſerve two Branches of Veins accompany a large Artery, one on each ſide, and if it happens the ſame in many places where the Veſſels are ſmall, which is no ways improbable, it muſt be the means greatly to facilitate the return of the Blood, not only from the aſſiſtance it has from the Pulſations of the Arteries, but as it is carried off in a greater number of Canals, beſides the muſcular Action which accelerates the Motion of the Blood in both, but eſpecially in the Veins. But further, the Veins, as in the Chyle Veſſels, and *Thoracick Duct* above deſcrib'd, have *Valves* placed at convenient diſtances, which all open inwards, for the progreſs of the Blood towards the Heart, ſo that being forwarded in its Paſſage that way, cannot return back again; and it may alſo be taken notice, that theſe *Valves* are the moſt numerous where they are the moſt wanted, as in the Limbs, and other places where the venal Blood aſcends upwards, being fewer in number, where the courſe of the Blood in the Veins diverts ſideways, and few or none where it is directly downwards. But I ſhall now go on to deſcribe the Diſtribution of the Veins, the larger of which very near agree and correſpond with that of the Arteries.

The Courſe of Circulation.

As the *Aorta* or great Artery receives the Blood from the Heart, and diſperſes it into all parts of the Body; ſo the *Cava*, as has been obſerved, like a main River, receives into it the Blood from all parts of the Body, proceeding firſt from Veſſels exquiſitely ſmall and imperceptible, and afterwards uniting in larger Branches, empty themſelves into its aſcending and deſcending Trunks, at proper and convenient diſtances. The ſuperior or deſcending *Cava*, receives firſt the Coronary Vein from the Heart, near the place where it opens into the Auricle, and before it pierces the *Pericardium* or Purſe of the Heart, it receives the *Vena ſine pari*, which is made by the union of the Veins of the Ribs, likewiſe the Bronchial Veins that accompany the *Bronchia* in the Lungs.

The next are the Subclavian and Jugular Veins, which are pretty large, and anſwer to the Subclavian, Cervical and Jugular Arteries, and are the next of any note, that open into the deſcending *Cava*. Theſe are divided into the external and internal; from the internal is return'd the Blood from the Ventricles of the Brain, and into them alſo, open all the Branches of Veins that lye among the Bars of the Mouth, which are often ſtruck with a Cornet or Fleam, when Horſes happen to be ſeiz'd with the Gripes, or other ſudden diſorders, alſo the *Ranulares* or Veins under the Tongue, and many other Branches and Veins which communicate with thoſe of the Brain.

The

The external Jugulars, are thoſe large Veins which run the length of the whole Neck, one on each ſide near the Gullet, and are conſtantly opened in all caſes that require bleeding, theſe being the largeſt and ſafeſt in the Body of a Horſe. Theſe receive and carry back that portion of Blood, which comes from all the external parts of the Head and Face, *viz.* from the Eye Veins, the Temple Veins, and thoſe of the Noſe and Lips.

The Subclavian Veins, *viz.* the two large Veins which paſs along by the Subclavian Arteries under the Channel-bones, not only receive a great part of the Blood which enters the Cheſt, but likewiſe have all thoſe Veins open into them, which run along the outward part of the Breaſt, Fore-legs and Feet. The Plate Veins which opens into the Subclavian, runs along the inſide of the Fore Leg towards the Knee, anſwering thoſe on a Man's Arm, and are frequently opened for Lameneſs in the Breaſt or Shoulders, but I have often had Horſes bled there on other accounts with good ſucceſs. Below this are the Shank Veins and Shakle Veins, which communicate with the Plate Vein. The Shank Veins are thoſe that run in the hollow, on each ſide of the Back Sinew, between it and the Shank; and the Shakle Vein is that Branch which runs acroſs the Back Sinew, and communicates with the Shank Veins on each ſide, under the place where a Horſe is ſhakled. But this Vein is ſo very ſmall, that it is ſcarce ever to be ſeen or felt, but when a Horſe happens to be extremely hot, and then we may perceive one or more Branches run acroſs the Sinew. I have ſometimes known pretty large Varixes in thoſe parts, by which the Shakle Vein has appeared very plain and viſible at all times, and been the cauſe of great Weakneſs and Debility in the Limb, till it has been removed by manual Operation. Theſe, and the Shank Veins, communicate with thoſe of the Coronet and Toe. Thoſe of the Toe are often opened for Infirmities of the Feet, and the Veins about the Coronet are frequently cut aſunder in the cure of Quittors, and other accidents in thoſe parts, and ſometimes with leſs danger to the Horſe than one could well imagine.

The aſcending *Cava* which runs along by the Spines of the Back, and carries the Blood from all the lower parts upwards to the Heart, receives firſt thoſe Branches of Veins, which return the Blood from moſt parts of the Lower Belly, *viz.* the *Meſenteriæ* from the Meſentery, the *Portæ* from the Liver, the Emulgents from the Kidneys, the Spermatick Veins from the parts of Generation, and where it is divided, as the deſcending *Aorta* into the internal and external Iliacks. The firſt receives Branches from the Hypogaſtricks, by which the Blood is returned from the Matrix, Bladder, and ſtreight Gut, and into the latter, *viz.* the external Iliacks open into the Epi-

gaſtricks, with Branches from the *Peritoneum*, and external parts of the Lower Belly, which in the Farriers Terms are denominated by different Names, as the Kidney Veins near the Loins, the Flank and Spur Veins, which are often ſtruck and wounded by the Spurs, the Liver Veins on the ſide of the Lower Belly, and are ſometimes opened from a ſuſpicion of Diſeaſes in the Bowels, and alſo that of the Rump, called the Tail Vein, which the Farriers frequently open, or elſe ſcarify the Tail in the Staggers, and other Diſorders that affect the Head. The Thigh Veins, and the Crural Veins, alſo enter into the external Iliacks and Epigaſtricks, as the Shank Veins in the Fore Legs communicate with the Subclavians. The Thigh Vein runs along the inſide of the Thigh, and is often opened in Fevers, Lameneſs of the Hips, and Diſorders of the Loins and Kidneys. The Crural Veins are thoſe on the lower Limbs, on each ſide the Inſtep, and anſwer to the Shank Veins, in the Fore-Legs above deſcrib'd.

CHAP. VII.

Of the Lymphatick Veſſels.

THE Lymphatick Veſſels ariſe from all parts of the Body, at the extremities of the Arteries, in the ſame manner as the Veins, but more plentifully from the Glands than any where elſe. They are clear pellucid Tubes, of a Cylindrical Figure, and as they appear to the Eye, ſeem only to conſiſt of one exquiſitely thin Coat. They often take their courſe through Glands; but when it is ſo, there is generally another Branch, that either paſſes over or along the ſide of that Gland, which, as Mr. *Cheſelden* well obſerves, may prevent their Fluid from being obſtructed, which would readily happen, in caſe theſe Glands through which they paſs ſhould become diſeaſed. Thoſe of the Lower Belly, enter partly into the *Venæ Lacteæ, Secundi Generis*, which riſe from the ſmall Guts, and partly into the Receptacle of the Chyle, and thoſe of the Cheſt into the *Thoracick Duct*, and Subclavian Veins; many of them alſo open into other large Veins in diverſe parts of the Body, from whence we may eaſily gather, that the uſe of the Lymph is to dilute the Blood, for the Lymph being a very fine pure Water, muſt render it more thin and fluid, and conſequently more fit to paſs thro' the minuteſt Veſſels. But the *Lymphæ Ducts* are themſelves ſo extremely thin, as expoſes them to frequent Ruptures, eſpecially in Horſes, whoſe great Weight join'd with their Labour, and many other concurring Cauſes, eaſily

The Uſe of the *Lympha.*

eaſily produce ſuch accidents. I have ſeen in Horſes, their whole Cheſt filled with Water, ſometimes the Cavity of the Lower Belly only, and ſometimes both Cheſt and Lower Belly, eſpecially when the Diſtemper has been of any continuance, and therefore in all violent and viſible Oppreſſions, which generally precede ſuch Diſtempers, I have found the greateſt ſucceſs from large Evacuations, particularly ſuch as promote Urine plentifully. The *Lymphæ Ducts* are branched out in the ſame manner as the Veins, in many and various Ramifications, and therefore have *Valves* at convenient diſtances, and where they are the moſt neceſſary to aſſiſt the Motion of the Lymph, and prevent its regreſs, and perhaps the Pulſation of the Arteries, and the muſcular Motion, may alſo contribute ſomewhat towards the ſame End.

The Diſtribution of the Lymphatick Veſſels.

CHAP. VII.

Of the Glands or Kernels.

HORSES being as much ſubject to Diſeaſes of the Glands, as moſt other Animals, and a Gland being the ſame thing that we commonly call a Kernel in brute Creatures, it may not be improper to give thoſe, eſpecially who are unlearned, ſome notion of their different Kinds, and alſo of their Mechaniſm and Uſe, wherein I ſhall chiefly follow Mr. *Cheſelden*, who has given a more rational and clear Account of the Nature and Structure of the Glands, than ſome of thoſe who have written elaborate Diſcourſes on the Secretions.

Mr. *Cheſelden's* Account of the Glands.

A Gland or Kernel, according to this Author, is chiefly compoſed of a Convolution, of one or more Arteries of a conſiderable length, from whoſe ſides ariſe vaſt numbers of excretory Ducts, in the ſame manner as the Lacteals ariſe from the Guts to receive the Chyle. The ſame Author is of opinion, that altho' the larger Secretions are made by viſible Glands, (that is, ſuch as we can, in a natural State, ſee plainly with the naked Eye,) yet that unconvolved Arteries may have excretory Ducts, by which he imagines, Secretions are made from all the Membranes that line Cavities. That numbers of Lymphatick Veſſels alſo ariſe from theſe Arteries, whoſe uſe ſeems to be, to take off the thinneſt part of the Blood, from ſuch places where a thick Fluid is to be ſeparated, being always found in greateſt plenty, in ſuch Glands that ſeparate the thickeſt Fluids, as in the Liver, and Teſticles, and obſerves that where the thickeſt Secretions are made, the velocity of the Blood is the leaſt; as if it was contriv'd on purpoſe to give thoſe ſeemingly

tenacrous parts, more time to ſeparate from the Blood. That the Arteries that compoſe different Glands, are convolved in different manners, but thinks it will be difficult to diſcover, whether their different Secretions depend upon their different Convolutions. The ſame Author further takes notice, that the Excretory Ducts ariſe from the Arteries, and unite in their progreſs, as the Roots of Trees, Plants, Fruits, and even different Minerals, in their growing, often derive their diſtinct, proper, nutritious Juices from the ſame kind of Earth; ſo the excretory Ducts in different Glands, ſeparate from the ſame Maſs of Blood their different Juices, tho' we have no certainty what theſe different Secretions depend upon, whether upon the Structure of the parts, or on different Attractions, but concludes in favour of the latter, *viz.* that from the great Simplicity and Uniformity uſually ſeen in Nature's Works, he is inclined to think, that the different Secretions ariſe from the different Attractions, ſeeing that in Plants and Minerals there ſeems to be no other way.

Thus far Mr. *Cheſelden*, in his ingenious and accurate account of the Glands, the underſtanding of which is of no ſmall conſequence to the knowledge of diſeaſes; for how far theſe are diſturbed in their ſeveral offices, ſo far the animal body muſt ſuffer; and this in proportion as their ſecretions are of more or leſs moment to the preſervation of life and health, or according as their ſituation is more or leſs dangerous, and puts them beyond the reach of proper applications. And it may be obſerved, as all acute diſeaſes generally proceed from an inordinate motion of the Blood, and this oftentimes from an obſtructed perſpiration; ſo all chronical diſeaſes, for the moſt part, ariſe from a diſtemperature in the Glands.

Glands of various Kinds.

The Glands are of various kinds, and are more or leſs to be found in almoſt all parts of the body, and in ſuch manner as they may beſt perform their various functions. Thus even all the Membranes that line cavities, are ſtudded with Glands, or have veſſels that diſcharge a Mucus, to preſerve them from adhering to the parts contained within them; and thoſe parts that are expoſed to the air, as the Noſe, Ears, Mouth, and Head of the Windpipe, have alſo their Membranes beſet with Glands, to preſerve them from turning too dry, and from other injuries to which the external air would expoſe them. The Skin is alſo thought to be full of very minute ſmall Glands, which ſeparate the Sweat, and are called the Miliary Glands, from their reſemblance to milet-ſeed. The Udder in Mares is alſo glandulous, for the preparation of the milk. The Liver, as has been obſerved, is the largeſt Gland in the bodies of all animals, for the ſeparation of the Gall or Bile; the uſe of which has been already mentioned in its deſcription. The

Pancreas,

Pancreas, or Sweetbread, is alſo glandulous, and likewiſe prepares a juice for the help of digeſtion; and the Kidneys are of great moment for the ſeparation of the Urine. There are alſo the ſalivary Glands that ſeparate the juices in the Mouth, which are ſqueezed into it by the motion of the lower Jaw, and ſerves to moiſten the food, and render it not only fit to be ſwallowed, but the more eaſy of digeſtion. Of theſe, the Parotid Glands are the largeſt, and are ſituated behind the lower Jaw, under the Ears; their excretory Ducts paſſing through the *Buccinator* Muſcles into the Mouth. The next are the inferior maxillary Glands, ſituated at the under ſide of the lower Jaw, having their excretory ducts entering the Mouth on both ſides under the Tongue, and near the Grinding Teeth. Another ſmall Gland, called *Sublingualis*, lies more inward under the root of the Tongue, and is the chief ſeat of the Strangles in young Horſes. Theſe, with the Tonſils near the *Uvula*, are the chief ſalivary Glands. The other Glands within the Mouth being very ſmall, and chiefly diſperſed upon the inner Membranes, ſerve to keep the Mouth ſufficiently moiſt. In the human body, numbers of theſe ſmall Glands may be felt at all times on the inſide of the Lips, which preſerve them from growing dry by much ſpeaking; but in Horſes, that have no need of ſpeech, there are ſcarce any to be felt, except a very few, and theſe exceeding ſmall, at the two angles or Corners of the Mouth. For the foam that falls from a Horſe's mouth, when he champs upon his Bit, is chiefly derived from the ſalivary Glands.

Their Uſe.

The *Sublingualis* the Seat of the Strangles.

As to the Lymphatic Glands, they are ſituated ſome few in the Head, ſome in the Thorax or Cheſt, and ſome in the Lower Belly, others in the Interſtices of the Muſcles, or accompany the large Blood-veſſels. And thoſe under the Armpits, and in the Groins, are alſo reckoned among the Lymphatick Glands, but in Horſes, are much ſmaller in proportion than in Men, tho' they ſeem to run a greater length, and perhaps if they were larger, and more prominent, might eaſily be hurt, or too much preſſed by the violent Motions of a Horſe.

The *Lymphatick* Glands.

Mr. *Cheſelden* reckons the *Glandula Pinealis*, which *Des Cartes* very ridiculouſly took to be the Seat of the Soul, only a Gland of this kind, having often ſeen large *Lymphæ Ducts* running into it from the *Plexus Choroides*, and has alſo obſerved a large Lymphatick enter into the *Glandula Pituritaria*, which lyes in the Baſis of the Brain, tho' this has been judg'd by moſt Anatomiſts to be only an excrementitious Gland. Several Lymphatick Glands are alſo to be met with in the Neck, accompanying the Carotid Arteries, and internal Jugular Veins. The *Glandulæ Thyroideæ*, which are ſituated immediately below the Thyroid Cartilage, are alſo reckoned of the Lymphatick

Kind, as alſo the *Thymus* immediately within the *Thorax*. The *Thymus* is much larger in Children than in grown Perſons, but is not ſo in Brutes; and the abovementioned Author has obſerved, that in Men as the *Thymus* grows leſs, the Thyroid Glands grow larger, and that the *Thymus* and *Glandulæ Thyroides*, both belong to the ſame Lymphaticks; and I have ſeen both the *Thymus*, and *Glandulæ Thyroidæ*, in a glandered Horſe all over cancerous, and the Lungs at the ſame time little or no ways tainted. There are in the *Thorax*, beſides the *Thymus* and *Thyroides*, ſeveral Lymphatick Glands about the Baſis of the Heart, and Sides of the Lungs: And we may alſo obſerve, many Lymphatick Glands in the Lower Belly, particularly in the Meſentery, and ſome among the Fat, about the Kidneys, and by the ſides of the Iliack Veſſels. The Lymphatick Glands in the Limbs are but few, and theſe for the moſt part ſmall in a Horſe, unleſs they happen to be inflated. That which is ſituated in the Fat, called the Pope's Eye, is generally about the bigneſs of a ſmall Walnut; but when the Lymphatick Glands happen to be diſtempered, the ſmalleſt will ſometimes grow to a very large Size.

When the Lymphatick Glands happen to be diſeaſed in any great degree, then the Lymphatick Veſſels are apt to burſt and cauſe Dropſies. If in the *Thorax*, the whole Cavity of the Cheſt will ſometimes be filled with Water, if in the Lower Belly, a common Dropſy will generally enſue. The Diſorders of the other Glands, are alſo attended with many ill conſequences; for when the Liver is diſeaſed, or the bilious Ducts any ways obſtructed, this will in time produce the Jaundice, unleſs great care be taken to prevent it. The Parotid Glands, and all others about the Throat, Ears, and Mouth, are generally affected in violent Colds, whereby their Secretions are either obſtructed, or are too profuſe, and when the ſmall Glands, and Membranes of the Guts are diſordered, either a violent Coſtiveneſs or Purging will follow, according as they happen to be more or leſs affected, and if to any extream, with the Attendants uſual in ſuch caſes, as Tenſion, inward Inflammation, and ſometimes Mortification. But every one muſt be more or leſs ſenſible, of the miſchiefs that ariſe from diſorders of the Kidneys, for when theſe are any ways hurt, ſo as not to perform their office, eſpecially if they are not in a capacity to ſeparate the Urine from the Blood, then the whole Body becomes ſwoln and inflated, which is generally followed with Ruptures of the Lymphaticks, and other ſmall Veſſels, and ſo ends in a Suffocation, or elſe in ſtrong vigorous Horſes, riſes in watry Tumors all over the Body, and cauſes what the Farriers improperly call a watry Farcy, which is alſo dangerous, unleſs proper helps be timely adminiſter'd. On the other hand, when theſe Secretions are too liberal by an over relaxation of the Kidneys;

Diſeaſes of the Glands.

this occaſions a continual profuſion of urine, whereby the natural Strength is impaired, and the whole Animal Frame weakened and debilitated. All theſe effects I have ſeen in Horſes, to which their labour and hard ſervices expoſe them more than other animals. I have likewiſe known ſeveral Glands in the external parts inflamed and come to Suppuration, and ſometimes indurated and ſchirrous, but moſt of theſe have been ſafely cured either by proper digeſtion only, by exciſion, or by application of cauſticks, which will be fully explained when I come to treat of theſe particular cures. The Glands that ſerve to lubricate the Joints, and the diſeaſes to which thoſe parts are expoſed, will alſo be taken notice of in their proper place.

CHAP. VIII.

Of the Brain and Nerves.

THE Brain has two remarkable Teguments or membranous Covers, the uppermoſt called the *Dura Mater* being very ſtrong, and the undermoſt the *Pia Mater*, from its cloſe adherence to the Subſtance of the Brain. The *Dura Mater* is tyed to the Baſis of the Skull, and to all the Sutures or Junctures by Filaments and Blood Veſſels, which communicate with the Scalpe and external parts of the Head; but adheres lightly to the other parts. It has three Proceſſes; the firſt is called *Falx* from its reſemblance to a Sicle, dividing the Brain in two halves. In a Horſe it is not ſo much arched as in Men, becauſe of the flatneſs and length of his Forehead; and, as Mr. *Cheſelden* has obſerved, the upper part of the Skull in Brutes is made in ſuch manner as to fit the Folds of the Brain, which indeed is plain to be obſerved in Horſes, where it lies as in a Caſe, and by that means is preſerved from being injured by violent concuſſions. The ſecond Proceſs runs from the lower and hinder part of the former towards each Ear, where it is fixed to the *Os petroſum*. The third runs downward towards the great *Foramen* or Hole, thro' which the ſpinal Marrow paſſes. The *Dura Mater* has ſeveral large Veins, uſually called *Sinuſes*, to diſtinguiſh them from the other Veins which are Cylindrical. Theſe receive the Blood from the leſſer Veins. One runs along the upper Edge of the Falx, and a ſmaller one runs along the lower Edge. There are beſides theſe ſeveral other *Sinus's*, *viz.* the *Longitudinalis ſuperior*, the *Rectus* and *Longitudinalis inferior*, and two called the *Lateral Sinuſes*, which begin at the endings of the longitudinal and ſtreight *Sinuſes*, into which the others empty

The *Dura Mater*.

empty themſelves. Theſe paſs thro' the eight *Foramen* of the Skull into the internal Jugular Veins. There is alſo a circular *Sinus* which empties itſelf partly by detached Branches into the *Lateral Sinuſes*, and partly into two others, called the *Cervical Sinuſes*, which paſs down on each ſide thro' the great Hole at the bottom of the Skull, and through the tranſverſe proceſſes of the Vertebræ of the Neck, but moſt of the *Sinus's* of the *Dura Mater* empty themſelves into the internal Jugulars.

The *Pia Mater.*

THE *Pia Mater* is a much finer and thinner Membrane than the *Dura Mater*, and adhering cloſe to the Brain, involves its whole ſubſtance, ſomewhat reſembling the film that covers a ripe Walnut. It has a vaſt Number of very ſmall Arteries that ſpring from the *Cervical* and *Carotids*, and are here divided into extreme minute Branches, that the Blood may not enter the Brain with too much impetuoſity, which would be both inconvenient and dangerous. Its Veins are from the Jugulars, and united in ſuch manner as they may more eaſily open into the *Sinus's* in fewer and larger Branches, by which this fine Membrane is preſerved from Inflammation, which otherwiſe might eaſily happen upon every ſlight accident, if the Arterial Blood ſhould meet with any great obſtruction upon it.

The *Anchoroides.*

THERE is another thin Membrane between the *Pia Mater* and *Dura Mater*, called the *Anchoroides*, which with the other two alſo accompanies the *Medulla Spinalis*, which may be ſeparated by a nice hand and great application, by which it appears analagous to all the other membranous Tubes in the Animal Body.

The *Cerebrum* or Brain.

THE Brain conſiſts of two principal parts, *viz.* the *Cerebrum* and *Cerebellum*. The *Cerebrum* is that which fills up all the upper and fore-part of the Skull, and is ſeparated from the *Cerebellum* by the ſecond proceſs of the *Dura Mater* above deſcribed. Its upper Side is divided into two hemiſpheres or halves, and its under Side into four Lobes, the two poſterior Lobes being larger than the anterior. At the meeting of the four Lobes appears the *Infundibulum* running from the Ventricles of the Brain into the *Glandula Pituitaria*, which Mr. *Cheſelden* takes to be a *Lymphatick*, agreeing with the deſcription former Anatomiſts have given of it, tho' not with the uſe they have aſſigned to it. And this I imagine, has proceeded from their not being enough acquainted with the Lymphatick Veſſels and Glands. The upper part of the Brain is of a cineritious or aſhy colour, called its cortical part, and its lower or inner ſide being white, is therefore called the *Corpus Calloſum*, under which appear the two ſuperiour Ventricles, which are divided into right and left by a thin Membrane named *Septum Lucidum*, which is extended between the *Corpus Calloſum* and *Fornix*. The *Fornix*

is

is a Medullary Subſtance which reaches from the anterior or fore part of theſe Ventricles, beginning with two ſmall Roots, and afterwards divides into ſeveral Branches called *Crura Fornicis*. In the baſis of theſe two Ventricles are the *Corpora Striata*, which are ſo called from their Streaks and Variegations, and the *Thalami Nervorum Opticorum* where the optick Nerves paſs; and beyond theſe are the *Nates* and *Teſtes*, which are only two ſmall Protuberances of the Brain. Above the *Nates* is ſituated the *Glandula Pinealis*, and upon the *Thalami Nervorum Opticorum* are the *Plexus Choroides*, conſiſting of a Number of Blood-Veſſels, Glands and *Lymphæ Ducts*. Under the beginning of the *Fornix* is a ſmall Foramen or Hole, with another under its middle, and the ſpace between theſe *Foramina* and the *Cerebellum* under the two anterior Ventricles, conſtitutes the third Ventricle.

The *Cerebellum*.

THE *Cerebellum* lies partly under the Brain, and is ſeparated from it by the ſecond proceſs of the *Dura Mater*, which Mr. *Cheſelden* has obſerved to be bony, in all the rapacious Animals he has diſſected; and in moſt others, it is ſo firm and ſo commodiouſly ſituated, that the *Cerebellum* cannot be eaſily preſſed upon by the *Cerebrum*. The fourth Ventricle belongs particularly to the *Cerebellum*, and is plain to be ſeen when that is divided lengthways. The baſis of the *Cerebellum* conſiſts of two Medullary Bodies called *Pedunculi*, and the extremity of the fourth Ventricle is named *Calamus Scriptorius*, from the reſemblance it has to a Writer's Pen.

The *Medulla Oblongata*.

THE *Medulla Oblongata* is a continuation of the Medullary Part both of the *Cerebrum* and *Cerebellum*, and the Spinal Marrow is a production of the *Medulla Oblongata* which paſſes through the great Foramen or Hole of the Skull, and through the whole channel of the Neck Spines of the Back and Loins: It enlarges in a Horſe about the Withers, where the large Nerves are given to the Fore-Legs, and in the Loins where the crural Nerves are diſtributed to the Hind-Legs, Thighs, and all the hinder parts, and the lower end of the Spinal Marrow, from whence theſe and many other Nerves ſpring, is called the *Cauda Equina*, which is a Term proper enough in the Anatomy of a Horſe. The Cover that involves the Spinal Marrow is a production of the Membranes of the Brain already deſcribed, *viz.* the *Dura Mater*, *Pia Mater*, and *Anchoroides*, and in this reſembles moſt of the other Tubes in the Animal Body.

The Nerves.

THE Nerves are the inſtruments of all ſenſation, and may alſo be accounted the primary cauſe of all Motion, as they actuate the Muſcles which are the immediate inſtruments thereof. All the Nerves take their Origins from the Medullary Part of the Brain, and *Cerebellum* from the

Medulla

Medulla Oblongata, and pith of the Back. At their firſt egreſs they appear like white Threads, and have a coat from the *Pia Mater*, and in their paſſage through the *Dura Mater* obtain another from it that is much ſtronger, which make a Cover to them in all parts wherever they go. Former Anatomiſts have generally reckoned nine pair of Nerves ariſing from the Head, but the moſt modern reckon ten pair, including the firſt pair, which take their origin from the beginning of the Spinal Marrow as being chiefly ſpent on the Head.

Their diſtribution into all the parts of the Body of a Horſe.

The firſt are the *Olfactory*, that in Brutes are a production of the two anterior Ventricles of the Brain, which paſſing thro' the *Os Cribriforme* are ſpread in innumerable imperceptible Branches all over the thin Membrane that lines the inſide of the Noſtrils, and ſerve to the ſenſe of Smelling.

The ſecond are the *Optick* Nerves, which chiefly contribute to Viſion. They riſe from the *Thalami Nervorum Opticorum*, paſs through the Sphenoidal Bone, and form the *Membrana retina* in each Eye, which Membrane is by many reckoned the ſeat of the *Gutta Serena*, *viz.* that ſort of blindneſs where no viſible defect or blemiſh appears on the Eye.

The third pair are diſtributed to the Teguments or coats of the Eye, and ſeveral of its Muſcles, whence they are called *Motores Oculi*.

The fourth pair are ſpent on the *Trochlear* Muſcles of the Eye. By theſe Muſcles the Paſſions are chiefly expreſſed in the ſeveral Motions they give to the Eye, and therefore are uſually called the *Pathetick* Nerves.

The fifth pair, after piercing the *Dura Mater*, divide into three principal Branches, the firſt called the Opthalmick, a great part of it being ſpent on the fat on the Lachrymal Gland Membranes and Eye-Lids, with ſome branches to the Membranes of the Noſe and Teguments of the Forehead. The ſecond branch gives Twigs to the Palate and Noſtrils, to the Cheek and upper Jaw, and alſo to the upper Teeth, with other ſmall Twigs to the Orbicular Muſcles of the Eye-Lids, Noſe and upper Lip, where they mix with ſome Twigs of the ſeventh pair. The third is diſtributed on the Muſcles of the Cheeks and Tongue, the lower Jaw, and on both the external and internal parts of the Ear. One conſiderable Ramification from this Branch enters the Canal or Sinus of the lower Jaw-Bone, and gives ſeveral Twigs to the Lower-Teeth, Chin, and Under-Lip.

The ſixth pair unite with the Opthalmick Branch of the fifth pair, and is ſpent on that Muſcle of the Eye proper to Brutes, called *Septimus Brutorum*, and likewiſe on the Abducent Muſcle of the Eye.

The ſeventh pair, with ſome branches of the fifth, are diſplayed on the internal Ear, and after they paſs through the Skull, give Branches to the Muſcles

Muſcles of the Tongue, the Gullet, and detach ſome external Branches to the Neck, other Branches of this pair are extended to the outward Ear, *parotid* Glands and Cheeks, all along to the Chin. In Man they ariſe from under the Annular proceſs of the *Cerebellum*, but in a Horſe from the *Medulla Oblongata*.

The eighth pair are called the *Par Vagum*, becauſe they are diſperſed almoſt into all parts of the body, their Branches being blended and mixed with thoſe of ſeveral other Nerves. After they paſs out of the Skull, one branch is ſpent on the Muſcles of the Shoulder-Blade, the principal Trunk taking its Courſe down the Neck, near the carotid Artery, deals out ſeveral branches to the head of the Windpipe, and paſſing into the Thorax or Cheſt it divides into two, the anterior going to the *Pericardium* or Heart-Purſe, where ſome of its branches unite with the Intercoſtal, and ſupply many ſmall branches to the Heart, *&c.* the Poſterior Branch deſcends with the Gullet, ſupplies the Lungs and Stomach with innumerable branches, which is the reaſon why ſo many painful ſymptoms ariſe affecting the Head, when the Stomach of any creature is in the leaſt hurt or even overcharged. The remaining branches are joined with the Intercoſtals, and paſs downwards into the Lower-Belly.

The Intercoſtal takes its beginning from the fifth and ſixth pair, and paſſing out from a large Ganglion or knot formed by ſeveral branches, which communicate with ſome of the firſt Spinal Nerves, and deſcending with the carotid Arteries, communicates with the *cervical* Nerves that ariſe from the pith of the Neck, and gives branches to ſome Muſcles of the Head and Neck. As it enters the Cheſt from another knot or Ganglion it gives out branches, by which the Windpipe, Heart, and Lungs are principally ſupplied, where its branches again communicate with the eighth or *Par Vagum*. After this the Intercoſtal runs down by the Vertebræ or Rack-Bones of the Cheſt, where it communicates with the Branches ſent from between each Vertebra, and when it has paſſed thro' the Midriff it forms another Ganglion a little above the Kidneys, into which ſome branches of the eighth pair alſo enter. From this knot or Ganglion proceed the Nerves of the Guts, Liver, Spleen, *Pancreas* and Kidneys, *&c.*

The ninth pair being principally ſpent on the Tongue, are the chief inſtruments of Taſte. Other branches of this Nerve are diſperſed in the Glands and Muſcles of the upper part of the Breaſt and Throat.

The tenth pair, which ſome have reckoned the firſt of the *cervical* Nerves, riſe from the beginning of the Spinal Marrow, juſt as it paſſes through the Skull, and are all ſpent on the oblique and exterior Muſcles of

the Head, except ſuch branches as join the Intercoſtal, with which this pair unites at its firſt Ganglion, and thereby communicate with the other Nerves above deſcribed.

The Nerves that ariſe from the Spinal Marrow, after it paſſes through the Skull, are in Men thirty in Number, but in Horſes thirty-ſeven pair, which I ſhall but juſt name, they being in all creatures equal to the number of the Vertebræ of the Neck, Back, Loins, and *Os Sacrum*. The Neck has ſeven pair, which are diſperſed partly on the Muſcles of the Face, partly on the Muſcles of the Neck, and partly on thoſe of the Shoulders and Fore-legs, which being joined with a branch from the ſecond and fourth, compoſe that remarkable Nerve called the *Phrenick*, which goes to the *Midriff*, *Pericardium*, and other parts within the Cheſt.

The firſt two pair of the ſeventeen Vertebræ of the Back, communicate with the lowermoſt of the Neck, ſending forth ſome Twigs to the Neck and Shoulders. The ſecond and all the other fifteen pair, ſend each of them a Twig to the Intercoſtal Nerve, by which they communicate with all the Nerves of the Viſcera contained both in the Cheſt and Lower-Belly, their other branches being chiefly ſpent on the Intercoſtal Muſcles which lie between the Ribs, as alſo on the Muſcles of the Back, with ſome Twigs that are diſperſed on the Lower-Belly.

The Nerves that ariſe from the Vertebræ of the Loins and *Os Sacrum*, are chiefly diſperſed on the Muſcles of the Loins, Hips, and Hind-Legs, only that the anterior Branches of the firſt pair of the Loins are diſperſed all over the fleſhy part of the Midriff, where they communicate with ſeveral of thoſe above deſcribed. Some branches are alſo ſpent on the Muſcle *Pſoas*, and the poſterior Branches on the *Longiſſimus Dorſi*; from theſe alſo are formed that remarkable Nerve called the *Sciatick*, which is the largeſt both in Men and Quadrupeds, and is ſo well known for being the Seat of the Sciatica or Hip-Gout, a diſeaſe from which, I imagine, Horſes are not altogether exempted, having ſeen ſome few caſes which plainly ſeemed to be of this kind. The *Penis* of a Horſe and the *Matrix* in a Mare, are alſo furniſhed from the anterior Branches of the Loins, and the Teſticles from the anterior Branches of the *Os Sacrum*, and from theſe alſo many ſmall Twigs proceed to the Tail which are neceſſary to its various motions, and may be plainly ſeen in a Horſe new docked, eſpecially when the Blood is compleatly ſtopped by a ſtrait Ligature.

To this ſhort deſcription of the Nerves I ſhall only add, that though their beginnings are not only very ſmall, but of an exceeding ſoft Texture, yet as they paſs a little way from their Origins, they grow very ſtrong and tenacious,

naceous, and by their communications one with another, form ſeveral large Trunks and Branches, which are proportioned to the parts where they are ſituated, and which they are to ſerve, even as the Muſcles are ſtronger in proportion to the weight they are to move, and in this reſpect correſpond with the Nerves; for in the Limbs, and ſome other parts where the Muſcles require a greater ſupply of Spirits, the nervous Trunks are the largeſt, and where there is a conſtant and continued Motion, the nervous *Fibrillæ* are the moſt numerous, as in the Heart, Stomach, and Guts, as alſo in the Lungs, and Midriff. It may alſo be obſerved of the Nerves, that notwithſtanding their diſtinct Origins, yet the whole nervous Syſtem is ſuch that all of them communicate more or leſs one with another, tho' we are not in the leaſt able to trace their innumerable, minuteſt Communications. The Nerves have an external Cover or Coat from the Membranes, that invelope the Brain, and Spinal Marrow, which has been diſcovered by injecting Wax of different Colours into the Blood-Veſſels, whereby the external Surfaces of the Nerves, are tinged with the Colour of the Wax injected into theſe Veſſels, and communicated from them to the Coats of the Nerves, while their internal Subſtance has not been chang'd, but remained white. When a Nerve is cut through, it ſeems to have no viſible Bore or Cavity in it, and ſcarce any Moiſture, its Texture being exquiſitely fine and compact; but that they have a Moiſture, or *Liquidum Nervoſum*, as Anatomiſts term it, will not be deny'd by thoſe, who have examin'd them carefully in the Body of any Animal, where they appear flaccid, and no ways dry, as ſome of the Cartilages and Bones, which nevertheleſs have their proper Juices circulating through them. In like manner the Nerves have alſo their proper Fluids, tho' their exact Texture, like many other minute things in the animal Machine, can neither be ſeen by the naked Eye, nor by the help of Glaſſes. That they are the primary Inſtruments both of Senſe and Motion, is ſufficiently known, whether this properly in them proceeds from the Animal Spirits, or from their Vibrations, or from both. The Structure and Diſpoſition of the Nerves, which all go off in right Angles, and not by Circumvolutions and Windings, as the Blood-Veſſels, and *Lymphæ Ducts*, ſeems to favour a Vibration, whatever ſhare the nervous Juice by its inconceivable Subtilty, may alſo have in theſe Senſations. This may be further conjectur'd, by the ſudden and immediate Impulſe, whereby all theſe Senſations are communicated to the Imagination in a moment, which could not be ſo eaſily conceived, if there was nothing beſides a meer undulation of the nervous Fluids.

Senſation how performed.

FROM what has been ſaid concerning the Nerves, and the Structure of the ſeveral parts of the Animal Body, we may eaſily account for all the known Senſations, *viz.* of Seeing, Hearing, Smelling, Taſting, and Feeling; in regard there is not the leaſt point throughout the whole Animal Frame, without an infinite number of little ſmall Branches of Nerves; by theſe Sight is communicated to the Eyes, the moment the viſual Rays fall upon the *Retina*. Smells as ſoon as any odoriferous *Effluvia* ſtrike upon the fine Membrane, that lines the Noſtrils. Sounds when Impreſſions are made on the Auditory Nerves, that move the parts of the internal Ears, which are wonderfully contrived for that purpoſe. Taſte is alſo convey'd by the Nerves, that are diſperſed on the Tongue, and other fine Membranes within the Mouth. And as to the ſenſe of Feeling, it is the moſt univerſal of all others, in regard no part of the Body can be touched in the leaſt degree, but we are immediately ſenſible of it, and the ſame is more or leſs obſervable in all other Animals.

CHAP. IX.

Of the Eye.

THE Eye is of a convex, globular Form, covered by its proper Lids, and incloſed within an Orbit or Socket, formed for that purpoſe out of the Bones. The Eyelids preſerve the Eye from Duſt, or other external Injuries; are an Expanſion of the Muſcles and Skin, the inner Membrane being of an exquiſite fine Contexture, that they may no ways hurt or impair the Surface of the Eye. Their Edges have a cartilaginous or griſly Rim, by which they are ſo fitted as to meet cloſe together in time of ſleep, or upon any Emergency, to prevent Duſt or other accidents, that may hurt its delicate Texture.

The Orbit of the Eye.

THE Orbit or Cavity in which the Eye is ſituated, is lined with a very freeable looſe Fat, which is not only eaſy to the Eye in its various Motions, but ſerves to keep it ſufficiently moiſt, as the *Lachrymal* Glands ſeated in the outer Corner or Angle of the Eye, ſerve to moiſten its Surface, and to waſh off any Duſt or Dirt that may get into it. At the inner Corner of the Eye next the Noſe, is a Caruncle, which Mr. *Cheſelden* thinks may be placed there, to keep that Corner of the Eye from being totally cloſed, that any Tears, or gummy Matter, may flow from under the Eye-lids in the time of ſleep, or into the *Puncta Lachrymalia*, which are little Holes placed one in each

each Eye-lid, to carry off any ſuperfluous Moiſture or Tears into the Noſe. And it is chiefly when this Moiſture abounds too much, that it runs down the Cheeks in ſome Diſeaſes of the Eyes, the *Punctа Lachrimalia* being ſtop'd, or not being large enough to receive the Moiſture. This is often to be obſerved in Horſes, and I have ſeen them alſo ſhed Tears plentifully in docking, and other painful Operations, and likewiſe ſome very doged Horſes will do the ſame, when their Stubbornneſs has been conquer'd and overcome.

Its Membranes or Coats.

The 1ſt.

The Eye has four Membranes or Coats, and three Humors. The firſt Membrane is called *Tunica Adnata*, or *Conjunctiva*, and covers all that part of the Eye which appears white in a Man, but in a Horſe variegated with Streaks and Spots of Brown, and being reflected back, lines the inſide of the Eye-Lid, and by that inverſion, it is alſo the means to prevent Motes, Duſt, ſmall Flies, or any other extraneous Matter getting behind the Eye-Ball into the Orbit, which would be extremely dangerous. This Coat is full of Blood-Veſſels, which appear in little red Streaks, all over the white of the human Eye when it is inflamed, and where there is but little white, as in the Eyes of Horſes, the Eye appears fiery, and the Eye-Lids when opened and turn'd back look red.

The 2d.

The ſecond Coat has its fore-part very ſtrong, and tranſparent like Horn, and is therefore called the *Cornea* or Horny Coat; and the other part, which is opaque and dark, is called *Sclerotis*. Under the *Cornea* lies the *Iris*, which in a Horſe, inclines to a Cinnamon Colour. The Middle of this Membrane, or Coat, is perforated for the admiſſion of the Rays of Light, and is called the *Pupil*. Under the *Iris* lie the *Proceſſus Ciliares*, which go off in little Rays, and in a ſound Eye are plainly to be ſeen; as often as theſe Proceſſes contract, they dilate the Pupil, which may always be obſerved in places where the Light is ſmall, but in a ſtrong Light, the circular Fibres of the *Iris* act as a Sphinctre Muſcle, and leſſen the Pupil, and therefore a dilated or wide Pupil in a ſtrong Light, is almoſt always a ſign of a bad Eye. Mr. *Cheſelden* obſerves, that in Men the Pupil is round, which fits them to ſee every way alike, and is the ſame in many other Creatures, eſpecially thoſe that are the prey of ravenous Birds and Beaſts, that they may be always on their guard, to ſpy out their Enemies and to avoid them; but Horſes, and other large Creatures that feed on Graſs, and are not ſo much expoſed to dangers of this kind, have the Pupils of their Eyes oblong horizontally, by which they are able to view a large ſpace upon the Ground, which is alſo the reaſon, why a Horſe that has good Eyes, ſhall carry his Rider as ſafe in the Night as in the Day, and will find the way better with once or twice travelling, than ſome Men that have travelled the ſame way twenty times;

and if the Rider happens to lead him out of the way, will fall into it again of his own accord.

The 3d. UNDER the *Sclerotis* lies the *Choroides*, which is the third Coat or Tunicle of the Eye, and is ſo called from its reſembling the *Chorion*, which inwraps the *Fætus* in *Utero*. In Men it is of a duſky brown Colour, and in Beaſts of prey, as the abovementioned Author obſerves, a great part of this Coat is white, which enables them to ſee Bodies of all Colours in the Night better than Men, in regard white reflects all colours. But Horſes and other Creatures that feed upon Graſs, have the ſame parts of this Membrane of a bright Green, which enables them to ſee with leſs Light, and makes Graſs an object they can diſcern with greateſt ſtrength, and therefore it is called ſometimes *Tunica Uvea*, from its reſembling the colour of a Grape, and has only obtain'd that Name in the human Eye, from the earlieſt Anatomiſts, who have probably begun their anatomical Studies in diſſecting brute Creatures.

The 4th. THE innermoſt or fourth Tunicle, is called the *Membrana Retina*, which is only an Expanſion of the Optick Nerve upon the *Choroides*, and encompaſſeth the glaſſy Humor like a Net. By a combination of the Rays of Light upon the fine Filaments of this Membrane, all external Images are convey'd by the Optick Nerves to the Brain.

The Humors. WITHIN the Tunicles or Coats of the Eye, are ſeated the three Humors which chiefly compoſe the Eye-Ball. The firſt is the *Aqueous* or watry Humor, which lies foremoſt, and ſeems chiefly a proper *Medium*, to preſerve the chryſtaline Humor from Injuries in caſe of Wounds, Bruiſes, or any other external cauſe. Mr. *Cheſelden* thinks it may alſo ſerve for the Chryſtalline Humor to move forward in it, while we view near Objects, and backwards for remoter Objects, as being agreeable to the Laws of Opticks, for which he gives ſome Reaſons, from the Mechaniſm of the Eyes of Fiſhes, which the curious may ſee in the laſt Edition of his Anatomy of the Human Body, pag. 296.

The Watry Humor.

The Chryſtalline. BEHIND the aqueous Humor lies the Chryſtaline, in a very fine Membrane called *Aranea*, being thin like a Spider's Web. The figure of the Chryſtaline is a depreſſed Globe or Spheroid, and its uſe to refract the Rays of Light that paſs through it, ſo that all the Rays proceeding from the ſame point of any object, being firſt refracted on the *Cornea*, may be united upon the *Retina*.

The Glaſſy Humor. THE *vitreous* Humor lies behind the Cryſtaline, being concave on its foreſide, to make a convenient Lodgment for the Chryſtalline, and its hinder Part convex, agreeable to the globular Form of the Eye, upon which the

Tunica

Tunica Retina, and *Choroides* are ſpread. This Humor poſſeſſes a ſpace larger than both the other two, and being of a hue like a light coloured green Glaſs, is a proper Medium not only to keep the Chryſtaline Humor, and the *Retina*, at a due diſtance one from the other, but by its Colour to prevent the Rays of Light falling too forcibly upon the latter, which might weaken or impair the Sight.

CHAP. X.

Of the Ear.

BECAUSE it may be expected, before I conclude the Anatomical Part, that I ſhould alſo take ſome notice of the Ear; I ſhall therefore, to gratify the deſire of thoſe who have any curioſity that way, add ſome few things to what has been already ſaid concerning it, wherein I ſhall be as brief as poſſible, in regard Horſes are not very much ſubject to Diſeaſes in the Organs of hearing, neither can ſuch defects in them be eaſily known, unleſs they are cauſed by outward accidents, or attended with ſwelling Heat and Impoſtumation, or other viſible Symptoms which ſometimes happens. But if a Horſe ſhould loſe his Hearing, it would be difficult to find that out any other way, than by his not anſwering to the call of the Voice, or by his diſregarding all manner of Sounds and Noiſe. And if this proceed from any defect in the Organs, or Obſtructions in the auditory Nerves, it would be difficult to find a Remedy for it.

IT has been obſerved in another place, that the External Ear is of uſe to collect and gather in ſounds, and direct them to the *Meatus Auditorius*, or paſſage that leads to the Drum, otherwiſe called *Membrana Tympani*. The paſſage has a Membrane full of little Glands, where a thick Mucus is ſeparated, which is called the Wax of the Ear. This not only keeps the paſſage moiſt, but prevents duſt and inſects getting into it; and at the ſame time ſerves to ſoften the Noiſes from without, and renders them leſs harſh and grating. The Hair that is in the inſide of the Ears of ſome Horſes is alſo a defence to the Ear, and it may be obſerved in coarſe plain Horſes for draught or burden, that have large Ears, and the paſſage into the Ear large, there is alſo the moſt Hair, and in ſome a down like wool; and therefore it may prove injurious to ſuch Horſes to have this wholly clipped out and made bare, as is common for ſale, by expoſing them to colds in their Heads, eſpecially if they happen to ſtand ſoon afterwards in ſharp froſty winds, or in great rains. The ſetting up of the Ears may be alſo injurious,

injurious, eſpecially to Horſes that are fearful or tickliſh, as it may more or leſs mar their hearing. For all Horſes upon hearing any noiſe point their ears that way from whence it comes, (as I have already obſerved in treating of the Muſcles of the Ear) and when their Ears are ſo ſet up and fixed as to deprive them of that liberty, it muſt cauſe them to hear more imperfectly, and makes them oftimes unruly, and ſome of them grow ſo ſhy with this treatment, that they can ſcarce ſuffer their Ears to be touched.

The Organs of Hearing.

At the further end of the paſſage into the Ear is the *Membrana Tympani*, or Drum already mentioned, which is extended upon a circular ridge of bone. On one ſide of this Membrane is a very ſmall apperture covered with a Valve, which probably ſhuts to prevent any extraneous matter getting into the inner cavity, and may be of uſe to give vent to impoſtumations or gatherings formed in the Ear, if any ſuch ſhould happen within the barrel. Behind it is a cavity called the *Concha*, where four ſmall remarkable Bones are placed, *viz.* the *Malleus*, from its reſembling a hammer; the *Incus*, being in ſhape ſomething like an anvil; the *Stapes*, which in Men is like a ſtirrup, but in a Horſe triangular; and the orbicular Bone, which links the two laſt together like a chain. Theſe are actuated by their proper Muſcles, ſo as to aſſiſt in ſtretching or relaxing the Drum. From the inner Cavity or Barrel of the Ear goes the *Euſtachian* Tube, which reaches towards the Palate, through which the Air paſſes in and out to give a vibration to the Membrane or Drum, and a Vent to any ſuperfluous fluid that might happen to be ſeparated within the cavity. There is an oval Hole called the *Feneſtra Ovalis*, which opens into this Cavity, and near it another round Hole, called the *Feneſtra Rotunda*, both which are covered with thin Membranes, and lead to a Cavity called *Veſtibulum*, and thence into the *Cochlea*, ſo called from its ſpiral Windings like a Snail's Shell, and into three ſemicircular Canals, which altogether have the name of *Labarynth*, in which are ſpread the auditory Nerves.

The Ear is ſo extraordinary a piece of Mechaniſm, that ſeveral learned Anatomiſts have given very minute Deſcriptions of it; particularly *Valſalvo* an Italian, has wrote a pretty large Latin Treatiſe, profeſſedly of the human Ear, with the Figures of its Parts as large as the Life, done with the greateſt beauty and exactneſs; but it will be ſufficient here to obſerve, that every part of that curious Organ, is perfectly ſuited to promote the important end of hearing, and in ſuch peculiar manner as to render it the moſt pleaſing and grateful to every Creature. The Sounds being firſt collected in the external Ear, are convey'd directly to the *Membrana Tympani*, at the ſame time the

Euſtachian

Euſtachian Tube affords a paſſage for the egreſs and regreſs of the Air into the Barrel, like the Hole in a Drum, by which a Vibration is given to that Membrane, which therefore is uſually called the Drum of the Ear. The Vibration or ſhaking of the Drum, makes it ſtrike upon the *Malleus* or Hammer, that is placed in the Cavity behind it, and ſets the other three Bones in Motion, and as this Force happens to be more or leſs exerted, ſo the Sounds muſt be ſtronger or weaker upon the Ear, which, if they chance to be extremely loud, are hurtful, and if ſharp and grating, unpleaſant. But to prevent theſe and other accidents, the *Mucus* of the *Meatus Auditorius*, and the Moiſture of the Muſcles, and Membranes of the internal Ear, not only help to qualify and ſoften the Sounds, but preſerve the Drum from growing dry and criſp, which in that caſe might ſometimes expoſe it to be broke or torn. The four little Bones juſt mentioned, fill up the Cavity behind the Drum ſo conveniently, as may prevent its being beat inwards by the violent impreſſions of loud Noiſes from without. The other Cavities which form the Labirynth, are alſo contriv'd in ſuch manner as to keep the Ear from being hurt; for by their ſeveral circumvolutions and windings, all Sounds are communicated gradually, and their œconomy is alſo preſerved, ſo as their impreſſions may not ſtrike the auditory Nerves, which are diſperſed on all the Membranes that line thoſe Cavities, with too great force, or in a jarring and confuſed manner; but all Sounds being in ſome meaſure modulated in the Labirynth, are by the Nerves convey'd directly to their Origin in the Brain, where they are clearly and plainly diſtinguiſhed.

How far a Horſe may exceed, or fall ſhort of other brute Animals in point of Hearing, no one can exactly determine, neither is it indeed material to our preſent purpoſe. Thoſe who have a curioſity in ſuch matters, may be very agreeably entertain'd, by conſulting natural Hiſtory, where many things are related concerning the peculiar Properties and Inſtincts, obſervable in different Creatures, and the infinite Variety the divine Wiſdom has thought fit to diſplay in the œconomy of the Animal Creation. It is well known that a Horſe has ſufficient quickneſs in all his Senſes; ſome are ſo acute and nice in ſmelling, as not to touch a bit of Hay that another has breathed upon, nor drink in a Pail after another Horſe, until it has been emptied and rinced; and ſome will ſcarce eat any kind of Provender, but what is ſweet and of a good Flavour, which we may obſerve them to diſtinguiſh, both by their Smell and Taſte; and by their Smell they will alſo diſtinguiſh Perſons. Their Eyes are alſo perfectly ſuited in the manner already related, both for their own ſupport and preſervation, and for the various Services we require of them. And as to Hearing, a Horſe has all the properties

needful in a Creature of great ſagacity and uſe. Some Horſes will diſtinguiſh their Keeper, not only by his Voice, but by the Tread of his Foot before he enters the Stable, and ſome will diſtinguiſh the Sound of another Horſe's Foot at a very great diſtance, and before it can be heard by us. When a Horſe is in a Fever, and parched with Heat and Drought, tho' at that time we may ſuppoſe his Senſes to be very dull and much confuſed, yet he will prick up his Ears at the leaſt noiſe of a Pail. Horſes are alſo very acute in diſtinguiſhing Sounds, ſhewing greatly delighted with ſome, and diſpleaſed with others. The Grunting of a Hog, or the Braying of an Aſs, will put ſome Horſes upon the Fret, or any harſh Sound made by an unuſual Inſtrument: On the other hand, all fine Horſes love the Yelling of the Hounds, are elevated with the Horn, and with various kinds of Muſick, and ſome are quite tranſported at the ſound of Drums and Trumpets, and other martial Inſtruments; which ſhews that a Horſe has a well form'd Ear, and a very great delicacy in hearing.

A DIS-

A DISCOURSE OF FEEDING and EXERCISE,

WITH THE

Right Method of adminiſtring Medicines to HORSES, &c. Being a proper Preliminary or Introduction to the Third Part.

BEFORE I enter upon the particular Diſtempers of Horſes, I judg'd it might be neceſſary to premiſe ſome things concerning Diet and Exerciſe, which I hope may be of uſe, as well to Gentlemen, as to thoſe who practiſe Farriery, in regard many of the Diſeaſes to which Horſes are expoſed, proceed from ſome ill management in their Feeding, want of proper Exerciſe, or from Exerciſe ill tim'd, or when it is too violent and given to exceſs. Allowing too much Water or too little, or letting Horſes drink at improper Times, and to ſeveral other ſuch miſtakes and neglects. On the other hand, many Horſes are hurt by overmuch care and ſollicitude, when their Owners, or the Perſons who look after them, think they can never do enough to make them look well and appear beautiful. But if we conſider the ſimplicity of a Horſe's Food, which conſiſts chiefly of Herbage and Grain: If this be good of its kind, and rightly diſpenſed, if it be well proportioned and well timed, and the other requiſites abovementioned carefully attended to, Horſes would in ſuch circumſtances, ſeldom contract hurtful Diſeaſes as they often do; and even notwithſtanding the many Errors committed by neglect, ignorance, or overcarefulneſs, I have obſerved, that their Diſeaſes are for the moſt part, not near ſo much complicated as thoſe of the human Body, tho' by the ignorance of the generality of our Practitioners, they often prove more fatal.

The Signs of Health in a Horse.

Now it ought to be laid down as a pretty sure Maxim, that when a Horse is perfectly well and in good plight, that is, when a Horse eats a moderate allowance of Hay and Corn, when he drinks a moderate quantity of Water, indures his Exercise well, without being faint and dispirited, when his Exercise does not take him off his Stomach, but rather quickens his Appetite, when his Coat lyes smooth and looks wholesome, we may reasonably suppose, nay even conclude, such a Horse to be free from Sickness, and therefore to give him any thing to prevent Sickness or Disorders, must in a great measure be superfluous, if not hurtful.

Physick no ways necessary to Horses when in Health.

Some are not satisfy'd, when the Horses have all the usual signs of Health, but order them to be bled and purg'd often, whether they really stand in need of it or not, according to a riveted custom, which seems to prevail more in this Nation than any where else. Others think their Horses cannot continue in any degree of Health without Cordial Balls, which are generally given with a view to carry off Surfeits, whether they be surfeited or not, to create a good Appetite, and to preserve their Wind. These Balls being, for the most part, made of warm Aromatick and Carminative Seeds, with some few Pectorals, are harmless enough, especially in the small Doses usually exhibited, but are frequently needless, and in some cases may be hurtful, especially to Horses of hot Constitutions; which thing ought to be previously considered, for these above all others, require a cool Regimen both of Food and Physick.

The Method of Keeping in some Foreign Countries.

In *France*, *Germany*, and *Denmark*, Horses are seldom purged, unless they be some way or other diseased, but have Alteratives given them to sweeten and invigorate their Blood. The use of the Liver of Antimony, we have chiefly from the *French*, who have it in good esteem for their Horses, and deal as much in that as we do in purging. The *Italians* seem to have little or no notion either of Purging or Alteratives, by what I have seen of their Writings, but take much notice of the Temperaments of Horses, after the manner of the Ancients, *viz.* the Sanguine, Melancholick, Phlegmatick, and Cholerick, and have assign'd Remedies for each, and have also laid down the Signs to know when either of these are predominant. Indeed whenever a redundancy happens of any of these Humors, a Horse may then be looked upon as diseased, and the Redundancy ought to be check'd or removed. But the natural Temperament and Disposition of a Horse, can be no more altered, than his Colour can be changed from Black to White, or from Brown to Grey.

The *Germans*, but especially the *Danes*, and *Holsteiners*, give often, by way of prevention, Powders made of warm Aromaticks, with plenty of Juniper

niper and Bay Berries, mixed with a proportion of common Salt, which perhaps may be agreeable enough in their cold Country. The *Hollanders* do the ſame, and in the Provinces where they manufacture the Rape Oil, they feed their Horſes with the Rape Cakes, which they reckon wholeſome, and indeed when theſe are join'd with their Diet, they make them extremely fat and ſleek, but their Fleſh is no ways ſolid and durable.

I have never ſeen any Books publiſhed by *Spaniſh* Authors on the Diſeaſes of Horſes, which may probably be owing to the Genius of the *Spaniards*, who are not ſo much addicted to writing, as other polite Nations; but thoſe Gentlemen of my acquaintance who have been in *Spain*, all agree in this, that no People in the World are more careful of their fineſt Horſes than they. The *Spaniards* feed their Horſes very much with green Barley, and other green Herbage, which that country, eſpecially the South parts, produce almoſt all the year more or leſs; and we find the *Arabs*, and *Moors* of *Barbary*, follow the ſame method, and depend more on the changes of Diet, Exerciſe, and good Dreſſing, for the preſervation of their Horſes, than on any kind of Phyſick, whether cordial or alterative; and where we give Hay and Oats, they feed with Barley and Straw, theſe being the Product of thoſe Countries, as Hay and Oats are the Product of ours. They are very curious in their Grooms, and allow one to every fine Horſe, who is continually imploy'd about him in dreſſing, feeding, and currying, and in watching againſt all accidents; and as the buſineſs of theſe fine Horſes is ſeldom more than play, they are therefore ſeldom ſubject to Sickneſs, but when they happen to fall ſick, none are more ſolicitous for their recovery than the *Spaniards*, but eſpecially the *Turks*, and *Arabians*, who are then very liberal in their Cordials; and it is evident, many things in the practice of Farriery, have been borrow'd from the *Arabians*, eſpecially Cauterizing, and Firing, and making of Rowels, and Iſſues, which we eaſily gather, by peruſing the Books wrote by the *Arabian* Phyſicians; and we may alſo obſerve, ſome of the fineſt Horſes that come from *Turkey*, *Egypt*, or *Arabia*, to have been fir'd when they were Colts, meerly to ſtrengthen their Limbs; and the ſame may be alſo ſeen on the Barbs, and on ſome *Spaniſh* Horſes, who have learned that cuſtom from the *Moors*, from whom they have probably had their beſt Breed.

Our Provender ſuited to the Conſtitutions of our own Horſes.

But with reſpect to our own Horſes, I believe none are better fed than they; we have, perhaps, the beſt Corn and Hay, that is to be met with in any country. Our Oats, when they are well ripen'd or Kiln dry'd, make a more hearty durable Diet than Barley, and are much more ſuited to the Conſtitutions of our own Horſes, as we find by experience. Our Climate being

being the moſt temperate, the Hay is generally well got, without exceſſive Heat, oftentimes in dry Weather, with fine freſh Breezes, and without much Sunſhine, whereby it retains all the Virtues of the Herb; for tho' it is become a Proverb, to make Hay while the Sun ſhines, yet this ought to be underſtood, not to loſe the opportunity of fair Weather, for Hay, and all other Herbage is beſt, when dry'd in the ſhade. Indeed ſome parts, from the nature of the Soil, produce but indifferent Hay, and in very wet ſeaſons a great deal of Hay is ſpoiled; yet the Rains are ſeldom ſo univerſal, but that we have always ſufficient for our beſt Horſes, and ſeldom want Graſs of various kinds in the ſeaſon, as often as it is required, ſo that if our Horſes ſuffer by their diet, it is not ſo often owing to the quality of their food, as to the quantity, either giving them too much, or too little, in proportion to their labour.

The Qualities of Hay.

I need not acquaint any one who has been converſant about the feeding of Horſes, what ſort of Hay is the beſt, and moſt wholeſome, ſince it is ſo well known, that the Hay which is hard, of a pale green, and fulleſt of the herb and flower, is always to be prefer'd to that which is ſoft and without flavour; tho' in ſome ſeaſons, and in ſome particular places, the Hay will be good and ſweet, when much of the flavour is loſt, which frequently happens, by its ſtanding too long on the ground waiting for fair weather, or for want of hands to get it in before the flower drops; and this is pretty univerſal, when the rains fall immediately before the hay harveſt, or in hot ſcorching Suns without clouds.

Mow burnt Hay.

When the Hay is forced to be got in, in very wet weather, a great deal of it is apt to be mow-burnt. Horſes will eat this ſort of Hay as ſoon as any for a change, unleſs when it happens to be very much ſmatch'd indeed, neither do they receive ſo much damage from it as ſome imagine, tho' I ſhould not chuſe to give mow-burnt Hay for a conſtancy, becauſe it is apt to bind, and make ſome Horſes too coſtive. However, I have often allowed it to ſick Horſes, when they would reliſh no other; for when this accident happens of taking fire in the mow, if the flower was not drop'd before it was cut down, it is no ways diſagreeable either in taſte or flavour, and in this caſe, I always prefer it for ſick Horſes, either to new or ſoft Hay, for it excites them to drink plentifully, which is always a great benefit to them, as the drinking helps to dilute their Blood, and to promote the Glandular Diſcharges.

New Hay is never reckon'd fit for any but working Horſes, for till Hay has ſweated out its ſuperfluous moiſture, it abounds with crude viſcid juices, which are hard to digeſt, and therefore may cauſe ſickneſs, or breed impurities in the Blood; ſo that is not fit to be given till the ſpring, or at leaſt till

after *Chriſtmas*, to Horſes that are not in hard labour or ſtrong exerciſe, for then it becomes dry and brittle, and the faint ſmell wears off, which till that is gone, both renders it unpleaſant and ſurfeiting.

Ryegrass Hay is ſeldom given but in the Months of *Auguſt* and *September*, except to the Horned Cattle. Before *Michaelmas* it is tolerably hard and dry, eſpecially in dry ſeaſons, and many feed their working Horſes with it mixed with dry Clover, but afterwards it imbibes ſo much moiſture, that it becomes unwholeſome, and few Horſes that have been uſed to good Hay will care for it. As for Clover, either green or dry, it is extremely ſurfeiting, unleſs it be given ſparingly, tho' moſt Horſes have a good reliſh to it, and when they are ſuffered to eat much of it, often produces Cholicks, and many fatal diſorders, which the Farmers who feed moſt with it, often experience among their own Horſes, to their coſt. Rye Graſs Hay.

All kinds of Hay ſhould be given as freſh as poſſible from the Stack, eſpecially in Winter, or in wet ſeaſons, for at ſuch times, even the beſt will imbibe a great deal of moiſture, and ſoon turn ſoft and muſty in the Hay Lofts. Many Horſes will not feed well upon it, and when they do, it often proves injurious and hurtful to them. Soft Hay, of all others, imbibes moiſture the eaſieſt, and retains the effects of it the longeſt, which generally turns it rotten and unwholeſome, and ſo affords but a crude faint nouriſhment, and thoſe Horſes that are forced to feed upon it for want of better, are generally weak and faint, and in time grow diſeaſed if they continue long in the uſe of it. When the Graſs has ſtood long on the ground, ſo as to become ſomewhat decay'd at the root, as happens in wet ſeaſons, waiting for fair weather to cut it down, that Hay always proves bad, rotten, and full of Duſt. When the Feeder can have no better, he ſhould be careful to ſhake the Duſt out of it as much as poſſible; for beſides that the duſt is unpleaſant to a Horſe, it is alſo very hurtful, and no kind of diet is more apt to breed Vermin. Long Hay is more duſty than ſhort, even tho' it be well got, and ſhould be well ſhook before it is put down into the Rack. The ſhort Hay is always the beſt, and generally full of Seed, and needs no preparation; for the Hay ſeed, when ſweet and dry, will never hurt any Horſe, and when it falls into the Manger, they will often lick it up, before they begin to eat their Hay. This is commonly the produce of dry Summers, when the Hay is always the beſt; but becauſe ſuch ſeaſons yield but very ſhort crops, the Hay generally riſes to a very high price, nevertheleſs a little of it goes a great way in feeding.

Hay is a material article in a Horſe's diet, and I have obſerved from experience, that feweſt Horſes fall ſick, or contract evil Diſtempers, when the Hay is univerſally good.

Oats

Oats their properties.

OATS are the next thing to be conſidered in a Horſe's Diet; they are of a middle nature between wheat and barley, and agree perfectly well with our Horſes, and are ſo pleaſant to Horſes Palates, that I never knew any foreign Horſe that had been uſed to barley and other kinds of grain refuſe to eat them. Whereas many of our Horſes will not reliſh barley, unleſs it be ſcalded, or when they are ſuffered to be very hungry, and even then do not eat it with pleaſure. Oats are cleanſing and opening, and inwardly healing, and our Horſes ſeldom receive any damage from their oats, unleſs they be given with too liberal a hand, and then they are looked upon to be heating; beſides, when Horſes have too many oats given them, they are apt to eat little or no hay. But this ſeldom happens, excepting in places where hay is ſcarce, or not good of its kind, and oats plentiful; but Horſes that eat little hay and many oats, tho' their fleſh is generally firm, yet they ſeldom carry any belly, and if they have not a good deal of exerciſe, are apt to fall into fevers, or breed ſurfeits.

THE oats are generally good all over *England*, but are beſt in the north parts, for they thrive moſt in cold mooriſh grounds, and in ſome countries are their chief product. Thoſe that have a thin ſhell, and not large and huſky, feel heavy in hand, and rattle when poured into the meaſure, are the beſt. The ſhip oats that come to *Bear-Key*, are chiefly from the northern counties, but are ſometimes muſty and unwholeſome, and loſe their whiteneſs by the water-carriage; but when they are put into dry granaries or dry lofts, and ſpread out on the floors, and often turned and ſifted, they frequently recover their ſweetneſs, and may be given with ſafety; yet I ſhould always prefer the freſheſt and neweſt oats, eſpecially to fine Horſes, tho' they may be worſe in kind; and where they abound in huſk there needs no more than to increaſe the allowance. Some prefer the black oats to the white, but I believe the difference is but ſmall, only that in ſome places the black are more firm and hard than the white, and have a thinner ſhell, and in thoſe places they generally ſow a ſuperior number of black oats among the white, tho' the white that grow up with them are not much, if at all, inferior to the other, which ſhews the difference lies chiefly in the goodneſs of the ſeed and the fitneſs of the ſoil.

Beans their properties and uſe.

BEANS are another part of our Horſe's Diet, which, however, are chiefly uſed in mixture with bran or chaff, and by ſome upon the road with oats; but they are moſtly given to coach Horſes, and others that are conſtantly in draught. They afford the ſtrongeſt nouriſhment of all other grain, and will enable Horſes to go through a great deal of heavy labour; but in ſome ſeaſons they breed a kind of vermin, which the farmers call a red

red Bug, and is reckoned dangerous, and therefore the best way at such times is to have them well dried and split, which may in some measure destroy the malignity that is ingendered in them. I need say nothing of peas, which I have known given to working Horses in places where they grow in great plenty, these when they are hard and dry having a near affinity to beans. Neither need I mention pea-straw or pea-ham, as some call it, which the farmers give to their cart Horses, as a refuse that would lie on their hands, and be fit only for dung if they did not put it to that use. The farmers also give their Horses a good deal of chaff among their oats, which is not amiss when it is sweet and fresh; but if it happens to be old and musty, it is apt to breed Vermin. And even the best chaff when it is given in too great quantity to Horses that do not work, it makes them grow pot-belly'd, and if long continued, will breed foul blood and turn them diseased.

Peas.

BRAN is a useful ingredient in a Horse's Diet, if discreetly used, and when scalded is a kind of panada for sick Horses. But nothing is worse than a continued use of bran raw or scalded, as it is apt to relax and weaken Horse's Bowels too much, and thereby expose them to many evils; and I am apt to believe the *Bots* that are so troublesome to many young Horses, in the months of *May* and *June*, are owing to musty bran and chaff, with the other foul feeding given to make them up for sale in the spring, and therefore one can never be over careful in feeding with bran to see that it be new and sweet.

Bran its use.

THE next thing I am to consider, is the feeding on grass and other green herbage, of which our grounds afford sufficient store of various kinds. And this indeed seems to be the most natural food of Horses, as well as of many other brute creatures; but by reason of the coldness of our soil and climate, our grass is not so nourishing as to strengthen a Horse for hard labour, without an addition of dry provender. However, most of our spare Horses in the country are kept pretty much at grass, both to save charge and trouble, where for most part they do pretty well, especially those that are habituated to that kind of living. Many Gentlemen keep their Hunters abroad all the year with good success, where they have a stable in some convenient dry field, with hay at all times for them to come to when they please, and where they can shelter themselves from the inclemency of the weather. These Horses are seldom sick or diseased, and as they move and rest themselves at pleasure, so their limbs are always clean and dry, and with a feed or two of corn, do their mornings work and go

Feeding at Grass, &c.

through a chaſe as well, and frequently better than thoſe that are kept conſtantly in the houſe, and have a great deal of airing and dreſſing beſtowed on them.

Our farmers alſo keep moſt of their Horſes abroad in the winter, where they take their chance till the froſt and ſnows come on, or when the weather happens to be very rainy that the grounds grow potchy, and then they fodder them in their yards or near their Houſes, ſo as they can come into the ſtables or under ſhades, which ſome build for the conveniency of their cattle.

But thoſe who have not ſuch conveniencies of their own ought to be at ſome pains in procuring graſs for their Horſes, and proper places for them to run in the winter when they have no uſe for them, eſpecially ſuch as live in *London* or other great towns, that the graſs be ſweet. For rank ſower graſs is rather worſe than the hay that comes off the ſame ground, provided it happens to be well got, and in a good ſeaſon, the viſcid moiſture and other qualities that are noxious in the Herb being in ſome meaſure evaporated, or according to the vulgar phraſe, ſweated out in drying. That graſs is always reckoned the beſt which is ſhort, thick, and on dry but on fertile ground, that needs little manure, eſpecially ſuch as has always been made uſe of only as paſture, and has little or no other dunging but what the animals themſelves leave upon it. Therefore moſt Horſes thrive better on commons, or on the graſs that grows near commons, than on meadows that have been often mowed, and have had great crops of hay taken off them from time to time, and therefore muſt either be manured or ſowed afreſh with clover. For tho' Horſes will grow fat upon ſuch grounds when they have good water; yet they are not apt to hold their fleſh nor to ſtand ſo well afterwards, unleſs in very dry ſeaſons when they feed altogether on the root on which bare paſture Horſes will grow extremely fat, as I have often obſerved. For the roots of moſt kinds of graſs are extremely cooling and agreeable to the conſtitutions of Horſes, and have more of a diuretick quality than the herb.

The properties of Graſs.

The fields which lie near great towns and are much dunged, cannot be ſo well recommended either for hay or paſture, as thoſe that lie more in the country and are not ſo much forced, nor ſo much exhauſted with heavy crops; and I have often obſerved, where the grounds are naturally poor, that tho' the loads of dung will make them yield a plentiful crop to the owner, yet it often proves injurious to the Horſes that feed upon them, eſpecially if they go the whole ſummer. For in the ſpring the graſs is more tender and full of ſap then afterwards, and riſes in ſuch plenty that they

they can eaſily pick what they like beſt, without receiving much damage, if any; but afterwards when they come to have leſs choice, and are forced to take up with what they can find, many of them decline and grow pot-belly'd; and theſe effects are always the moſt manifeſt where the ground is naturally poor and barren, and has been newly manured with dung. A poor ſoil that has been much impoveriſhed, and produces nothing but what has been forced, contracts a kind of diſtemper or diſeaſedneſs, and may be fitly compared to a man or any other animal, that becomes ſick and ſurfeited with great meals after he has been a long time half ſtarved. For in many things there is a near affinity between the earth and the vegetables that grow upon it, with the bodies of animals.

I knew a conſiderable graſs farm that had been many years neglected, firſt by the tenant, and afterwards by one who was entruſted by the landlord to look after it, whereby the ground, which was naturally poor, became ſo barren, that it produced little or nothing but moſs, and was grown ſo bare in places, that the ſtones and gravel appeared on the ſurface when the graſs was fit to be cut down. While the ground was in this poor condition, above forty troop Horſes with which I was concerned, fed upon the aftermaſh two ſummers with very good ſucceſs. The third year the farm fell into the hands of a more diligent and induſtrious perſon, who loaded it with dung, which he procured in great plenty from *London*. About the ſame number were ſent that year alſo as ſoon as the aftermaſh was ready, and the firſt time I went to ſee the Horſes there I obſerved a very great increaſe of graſs, but it looked patched in many places, of different colours, ſome yellow, ſome of a very deep green, and ſome blackiſh, occaſioned by the dung which had been laid on in great quantities, and was not ſufficiently incorporated and imbodied with the Earth, like a ſurfeited carcaſe broke out in boils and ſores. Many of the Horſes after their purgation grew pot-belly'd, which gave me ſome apprehenſion of danger, and in a little while after, two of them were ſent home ſick, notwithſtanding all imaginable precautions were uſed to prevent it, by plentiful bleeding; but after the *September* rains, that the young aftermaſh graſs ſprung up in great plenty, ſeveral more Horſes were ſeized with the yellows and other bad ſymptoms, which obliged us to bring them all home very ſuddenly; notwithſtanding which, many of them fell ſick the following winter, while thoſe that had been upon duty and had not been abroad at graſs, continued perfectly well. And thus we may gather from Examples of this kind, that in grazing Horſes the pooreſt ground will, if it be of a kindly ſort, produce wholeſome nouriſhment, by which they will thrive better than on the

richeſt ſoil; eſpecially when it is made ſo by mens induſtry, to produce large and plentiful crops.

MANY Horſes are alſo injured by running at graſs upon cold clay grounds, of which I have met with frequent inſtances; for tho' theſe may afford plenty of graſs and need but little manure, yet that graſs is not very agreeable to Horſes that have not been accuſtomed to ſuch kind of paſture; tho' the hay that grows upon clay grounds is oftentimes very good and wholeſome, eſpecially when the clay is not too ſtrong, and when there has been ſome froſty ſeaſons to mellow it. But if Horſes are turned out upon the clay, they ought by no means to run late in the year, but ſhould be taken up before the latter rains; for unleſs they be uncommonly hardy, they may receive great damage, becauſe the water never ſinks deep enough in the winter on ſuch grounds, but is apt to lodge too much on the ſurface, ſo that the Horſes that feed on theſe in the ſhort days lie extremely wet; and indeed the clay is ſo injurious to ſome Horſes that I have known them ſuffer greatly, notwithſtanding they were conſtantly taken up in the night and brought into the houſe.

The ſalt marſhes.

THE ſalt marſhes along the river *Thames* are certainly as good paſture for Horſes as any we have about *London*, where many run all the year round with good ſucceſs in open ſeaſons, of which I have had ſufficient experience, and this I think is the ſureſt rule to go by. Tho' the air that comes off the marſhes is very injurious to human conſtitutions, and ſubjects them to annual returns of the ague, and ſometimes to palſies; yet it has no ſuch effect upon the brute creatures that feed on them, which may be owing to the diuretick quality of the ſalts, with which that graſs is more or leſs impregnated as the tides riſe higher or lower upon them. The marſh ſoil is for the moſt part a compoſition of a very fine light mold, mixed with ſand, covered all over with a fine trifoil, which ſows itſelf and grows extremely thick in ſome places, as we ſee it on ſome parts of our fineſt commons. If the rains fall never ſo heavy, the ground being open drinks it up immediately, ſo that the cattle always lie dry upon it, even in winter when moſt other places are potchy, which is one of the greateſt benefits of all others to Horſes at graſs. They purge more there, both by dung and urine, than on any other paſture, and afterwards take on a firmer fleſh; ſo that thoſe who ſend their Horſes there only to cleanſe them, and after purging remove them to other paſtures, unleſs it be for ſome particular conveniency, are greatly miſtaken; for I have known ſeveral Horſes run there ſummer and winter, and as few accidents happen to them as any where elſe. Four and twenty hours conſtant rain in the

graſs

graſs ſeaſon will often bring up graſs in the marſhes, unleſs the weather be extremely cold. And Horſes often grow fat on the beſt marſhes, when they are eat ſo bare, or burnt up in dry weather, that ſcarce any graſs is to be ſeen on them. In winter ſome never houſe them, but let them run abroad and take their chance in the open fields, where there are neither trees nor hedges to cover them, and yet they ſeldom ſuffer any thing from the extremity of the weather; and unleſs the ground be covered deep with ſnow, they allow them no dry forage, and will for the moſt part be found in good caſe, even in the months of *December* and *January*, when they have nothing to feed on but the roots.

All the water they have to drink is for the moſt part brackiſh, which at firſt is not very agreeable to Horſes that have not been uſed to it, but afterwards they come to reliſh it as well as any other. The greateſt danger on the marſh grounds is from the deep ditches made to run off the ſpring tides, ſome of which have their bottoms full of a kind of loom ingendered by the weed which comes into them in great plenty at high water. And a Horſe that is a ſtranger to theſe grounds, happens in leaping or any other way to ſtep into one of them, he may run the hazard of being loſt unleſs he be diſcovered in time. Sometimes Horſes have been waſhed away with the ſpring tides by going too near the dykes, but theſe accidents ſeldom happen, not only becauſe the maſh-men are always upon the watch at ſuch times, but moſt Horſes have generally ſo much ſagacity that themſelves ſoon are aware of the danger, and will very carefully avoid it.

But tho' we have perhaps the greateſt variety of food for our Horſes of all kinds both of graſs and dry meat, and in the greateſt plenty that is to be met with any where, nevertheleſs many are but indifferent managers in diſpenſing it, for want of ſufficient knowledge and experience in ſuch matters. And therefore I ſhall lay down ſome general rules which may be of uſe to preſerve our Horſes from ſickneſs and accidents, and ſhall at the ſame time go as far into particulars as the nature of the ſubject, and the deſign of this Eſſay will allow. Wherein I pay the greateſt deference to thoſe Gentlemen who in a particular manner take pleaſure in their Horſes, and viſit them often in their ſtables, and direct their feeding and exerciſe with great ſkill and judgment; whereof I have frequently had opportunities of being myſelf an eye-witneſs, and have learned many things of them which I doubt not will make what I have to advance on this ſubject the more uſeful to the publick.

Directions concerning feeding in the houſe.

Now as to the exact quantity of hay and corn which is to be given to any Horſe, that cannot be certainly aſcertained; but every man muſt uſe his

his own diſcretion, as he finds what the conſtitution of his Horſe will bear. For ſome Horſes are much better feeders than others, and at the ſame time require more food: Other great feeders muſt be ſtinted in their diet, when it only produces a bad Blood, and fills them full of humors, or indangers their Wind. Horſes require leſs food when they ſtand in the ſtable, as happens ſometimes in bad weather, without exerciſe, or when Horſes have but little exerciſe, and it ought to be a conſtant rule, to feed Horſes in proportion to the work and ſervices required of them: And therefore all Hunters coach Horſes, and Horſes that are much upon the road, or work hard in any kind of drudgery, ſhould be well fed, otherwiſe it is impoſſible they can go through their buſineſs to the owners ſatisfaction.

Horſes that mangle their Hay.

When a Horſe mangles and leaves his hay, and yet has no manifeſt ſigns of ſickneſs, that generally happens, either from his having too much hay given him, or too much corn, which kind of management, makes ſome Horſes loath their hay; and therefore when that is the caſe, his corn ſhould be abridg'd, neither ſhould his allowance of hay be augmented, till he recovers his Appetite, otherwiſe he will by degrees fall ſo far off his Stomach, that he will loſe his Belly, and look miſerably, and nothing will recover him but graſs, or ſome other change of diet.

Young Horſes of ſtrong craving Appetites, how to be managed.

Young Horſes that have ſtrong appetites, and have not done growing, ſhould be indulged more in their feeding, than thoſe that are come to their full growth and maturity; and if their exerciſe be but little, ſo as to oblige their diet to be leſſened, in that caſe, it will be convenient to lay a little ſweet ſtraw before them often, for a young Horſe that has a craving appetite, is never eaſy to ſtand to an empty rack, but will always be in ſome miſchief, either intangling himſelf in his collar, or kicking againſt the ſtall, or againſt the poſts, and ſome are continually nibling the rack and manger, and in the end turn crib-biters, which is as bad a miſchance, as can befal a Horſe. This ſeldom happens but to Horſes that ſtand idle, while they are breeding their Teeth; working is the beſt thing to prevent it, but where Horſes have but little work, which is often the caſe of troop Horſes, and ſome coach Horſes, I ſhould adviſe them to have a little freſh ſtraw conſtantly in their racks, when they have eat up their allowance of hay, and ſometimes to be ſtrap'd back, to keep them from this ugly trick, which at laſt grows into an incurable habit.

The Advantages of Exerciſe.

But exerciſe duly given to Horſes that are well fed, is not only the beſt means of all others, to prevent ill habits, but to preſerve them in a perfect ſtate of health: For exerciſe converts the food into good and wholeſome nouriſhment, it promotes the circulation of the Blood, and all the glandular

diſcharges, ſo as greatly to enliven the body, and to make way for freſh ſupplies of Aliment. It invigorates the Spirits, gives ſtrength and firmneſs to the Muſcles and Sinews, and enables a Horſe to endure labour. And when exerciſe is given abroad, in an open free air, it adds greatly to a Horſe's vigor, and prevents any diſpoſition to putrid coheſions in the Blood, which a cloſe ſtagnated air often produce, and this eſpecially when Horſes are young, and their appetites ſtrong; for indeed when Horſes grow old, their appetites are more moderate, and reſt is oftentimes more agreeable to them than labour. Nevertheleſs exerciſe is, more or leſs, abſolutely neceſſary for all Horſes, young or old; for we may obſerve, even old Horſes, when they lye much ſtill, tho' they are not apt, as young Horſes, to turn directly ſick, and fall into fevers; yet as their Blood grows poor, and languid with age, they become ſubject to many infirmities, as ſwellings of their Sheaths, and Bellies, with other dropſical ſymptoms, and ſometimes to obſtinate eruptions on their Skins, which exerciſe in a proper degree, often prevents.

Horses, by their natural activity, are every way ſuited to exerciſe and labour, and in that reſpect are more uſeful than any other of the brute creatures; only it depends on us, how they are to be treated, both for their own preſervation, and our benefit. I have already obſerved, that a Horſe's food, ought always be proportioned to his exerciſe. But the time and manner of his exerciſe, is alſo to be regarded, for if a Horſe happens, either to be work'd at an unſeaſonable time, or beyond his ſtrength, it will be more injurious to him, than if he had not been work'd at all. Therefore this general caution is always needful, *viz.* never to ride a Horſe hard, or put him upon any violent exerciſe, when he has been newly fed, and has had his Bellyful of meat or water, but ſhould be mov'd out at firſt gently, and he will naturally mend his pace, as his food and water begins to aſſwage, when his rider may urge him on to further ſpeed, as his buſineſs may require.

The right time and manner of Exerciſe.

I need not tell any one, that when a Horſe is hot with riding, or any other ſharp or laborious exerciſe, he ſhould be cool'd by degrees, this being known to almoſt every ſtable Boy, from cuſtom and uſe, tho' it is often neglected, thro' ignorance or idleneſs, or done with little judgment. And therefore, when a Man has travelled hard upon a journey, or when Horſes have been driven hard in a coach or chaiſe, it is not ſufficient, after they come to their bating place, or to the end of their day's journey, to walk them about in hand for half an hour or more, which is uſually done, but their pace ſhould alſo be ſlackened for a mile or two before they come in, and after that, ſhould be alſo walked ſome time in hand, that they may cool gradually, before they are brought into the ſtable, with a thin cloth laid

How Horses are to be managed in hunting and on the Road.

laid over each, if they have been us'd to it. This is the safest way with young Horses, that have been kept well, and have work'd but little. And when such Horses come late to the end of their days journey, or when the weather is so bad, that they cannot be walk'd about in hand, they should then be well rub'd all over their Bodies and Limbs, till they are quite cool, without taking off their harness and saddles, and then cloathed, for when all the smallest Blood-vessels are replete and full, as they must unavoidably be in all strong, and especially in long continued exercise, and the Blood extremely heated, and running like a torrent, any sudden chill or damp will produce stoppages and obstructions, where the vessels are the most minute and small, or wherever there is the greatest weakness and relaxation, sometimes inwardly in the Lungs, sometimes in the Liver, and Kidneys, and sometimes in the Stomach, and Guts, and other membranous parts, and this is usually followed with inward pain, and inflammation, or with great dulness, and heaviness, which in the end, often produce many untoward disorders; or if the Limbs happen to be weak and relaxed, the Blood and Juices will soon drop down, and stagnate there, so as to produce Swellings, and sometimes Ulcerations, that are troublesome enough to remove, especially in those that have been but little accustomed to such kind of labour; for habit and use, in continued exercise, alters the case very much, because that strengthens and invigorates the Nerves and Sinews, as we may observe in some hackney or job Horses, which are so season'd to their work, that scarce any thing can hurt them. Indeed some of the job Horses, that we see indure so much labour, are naturally strong, and very hardy, and have at first been carefully managed by their owners, who are not able to bear the loss of Cattle, as Gentlemen or Men of fortune, and therefore we see them generally, both begin and end their work with great coolness, and when they chance to meet with Horses, that they find unable to go through their hard work, they usually make their business only a meer play, that they may not lose their Flesh, until they can dispose of them to the best advantage.

Another necessary caution for the preservation of our Horses, is never to feed them too soon, after they have been heated with exercise; for as to Water, I believe I need give no precautions about it, because few are so ignorant as to give Horses Water while they are hot. Nay some are so fearful in this respect, that tho' they travel gently, and continue several Hours upon the road, yet will never suffer their Horses to cool their Mouths, if they are never so much parched and dry, which is a great mistake, because Horses that travel or work but gently, may be indulged with water at any convenient place, and often suffer for the want of it. But with respect to

feeding

feeding Horſes when they are hot, it ſhould be conſidered, that the Blood-Veſſels of the Stomach are then replete and full, and oftentimes heated and inflam'd, and requires ſome time, before a Horſe is in a capacity to receive food, without being injur'd by it. And I believe moſt Men of weak digeſtions, may experience ſomething of this in themſelves, that when they have been over-heated, they will have no great inclination to eat, until they grow cool, and if they happen to eat before, they will be the worſe for it. And I have obſerved the very ſame difference in Horſes, tho' in ſome much more than others, and therefore in all ſuch caſes, ſhould have nothing at firſt but clean hay, given them by handfuls, and at proper intervals, until they are perfectly cool, and then may have both their water and meat in ſufficient quantity, only with this caution, that if they are to travel further the ſame day, their feeds ſhould be but ſmall, and at night a full feed given at twice, which every one will find by experience the beſt way, to go thro' their work with ſafety.

The method uſually made uſe of in feeding coach Horſes upon the road, by giving them bran, with a few beans, before their oats, is not at all amiſs, becauſe their work makes them perſpire ſo very much, that without ſomething of this kind, they would be faint, or apt to grow coſtive in long journeys, which would be injurious to them. The bran keeps their bodies open, and the beans is a ſtay, to keep the bran from ſcouring, which is another extream, Horſes of weak Bowels are apt to be ſubject to on a journey, and is no leſs injurious than coſtiveneſs; but then care ſhould be taken, that the bran be freſh, and the beans old, for nothing will ſurfeit more than muſty bran and new beans, neither ſhould the beans be given too liberally, but only as a corrector of the bran, to make it leſs ſlippery.

Habits to be broke gradually.

Moreover, Horſes that have not been much accuſtomed to labour, ſhould be led on to it gradually, for habits can ſeldom be broke off abruptly, but by degrees; and this caution is the more neceſſary, becauſe when Horſes have had but little exerciſe, they are apt to increaſe in Fleſh, tho' their feeding be but moderate, yet their Fleſh is for the moſt part, but looſe and flabby; and if a Horſe in this condition, while his Veſſels are relaxed, ſhould be hard work'd, it would be the more dangerous, becauſe the Blood at that time, muſt have acquired a great degree of viſcidity, ſo as to render it unfit to paſs through the ſmall Veſſels, which muſt therefore be diſtended, and the Secretions thereby greatly obſtructed, and prove the cauſe of many obſtinate diſtempers; and when theſe Horſes have Blood taken from them, it is generally of ſuch a texture and complexion, as ſhews their dangerous ſtate conſiſting for the moſt part of a yellow viſcid ſize, or of a florid high

colour, extremely thick, without a due proportion of *Serum*, and sometimes black and grumy, which upon sudden brisk exercise, expoſes Horſes to fevers, with inward pain and inflammation, that unleſs uncommon means be uſed, will end in putrefaction, which accidents, I have frequently known, happen to young Horſes, that were put to buſineſs without due preparation.

And here it may be further obſerved, that the longer any Horſe has been without exerciſe, the more time ſhould be allowed to prepare him for buſineſs, becauſe the longer a Horſe has been kept in indolence, his Veſſels become the more relaxed, the ſpringineſs and tone of the Muſcles more debilitated and weakned, ſo that if he eſcapes a fever, or other acute diſtemper, yet any ſudden exerciſe in ſuch a ſtate, often induces pain and wearineſs in the Shoulders, Hips, Limbs, and other parts adapted to motion; and this is generally more or leſs, in proportion to the time he has been kept in an unactive ſtate, or according as his particular make and diſpoſition, may render him more or leſs ſuſceptible of injuries, from a depraved, ſluggiſh, or too rich a Blood. Many inſtances there are of this kind, eſpecially of Horſes newly come out of the dealers hands, which are oftentimes long in the keeping of country Jockies, before they are brought to *London*, and ſo extremely fed there, where all things are cheap, that many of them require a great deal of management, before they can be put to any uſe. For tho' our Dealers here in *London* give them a few Gallops, backwards and forwards, in their own rides upon litter, yet this is but ſmall, and no ways proportion'd to their food, which they diſpence with a liberal hand, to keep them in ſuch order, as to render them the more ſaleable, ſo that too much exerciſe, if they had proper conveniences, and hands to do it, would by no means anſwer their end. And therefore when a Horſe newly bought from a Dealer, or any other that has been kept a long time without ſufficient exerciſe, is to be put upon buſineſs, ſome proper preparation ſhould be made for it, which ought to be ſo accommodated, as the circumſtances of time and place, and other requiſites will allow.

Horſes newly brought from the Dealers how to be managed.

Now it muſt be obſerved by the way, that the difference of conſtitution in Horſes, may render the time of preparation for buſineſs much ſhorter in ſome than others. For ſome Horſes are ſo extremely hardy, that ſcarce any error in the way of feeding, or any miſmanagement or neglect in other reſpects, will hurt them. We ſometimes meet with a Horſe that has ſtood a whole winter in the ſtable at full feed, and in all that time has ſcarce travelled further than the water trough, go all of a ſudden into other Hands who have put him immediately upon very hard ſervice, without any accident, or perhaps the leaſt failure in the accompliſhment of his work, or

The difference of Conſtitution to be regarded.

ſuffering

ſuffering any damage by it afterwards. And ſometimes we meet with inſtances of Horſes newly taken up from winter graſs or other foggy diet, perform a journey well, or even go a hunting without any preparation. But theſe inſtances are very rare, and ſeldom or never to be met with among the fineſt of our bred Horſes that derive their blood originally from a warmer climate, and have more of delicacy than moſt of our common Horſes. We may alſo obſerve, even among our bred Horſes, that ſome of them require leſs preparation to fit them for buſineſs than others. But as it is impoſſible the bottom'd goodneſs of any Horſe can be perfectly known without a ſufficient trial, and as this may alſo be uncertain, becauſe ſickneſs and unforeſeen accidents may alter and change the radical conſtitution of any Horſe, therefore the ſureſt way is never to venture upon any laborious buſineſs until he has been thoroughly ſeaſoned with ſolid food and conſtant exerciſe.

Most of the Horſes that are fed for ſale have the interſtices of their Muſcles ſo filled with fat, that their true ſhapes can hardly be known. The *Membrana Adipoſa*, that lies immediately under the ſkin, makes a cover of fat over the whole, which gives ſome Horſes almoſt the ſame feeling as a dropſical body, ſoft and ſometimes yielding and giving way to the preſſure of the hand, and theſe Horſes to a critical eye have frequently no other beauty than a fine coat, which the exuberance of oily fat under the ſkin, warm cloathing, and a hot ſtable, cauſes to look ſmooth and gloſſy; whereas the true beauty and vigor of a Horſe ſhews itſelf in nothing more than in the diſtinctneſs of his Muſcles when they appear in action, and the cleanneſs and dryneſs of his limbs, which is greatly loſt when he is blown up with fat. This treatment cauſes many Horſes to miſcarry when they come into buſineſs, and greatly diſappoints the expectation of the purchaſers, for if a Horſe in this condition is not carefully managed, he may eaſily be ruined. For this of itſelf is a kind of morbid ſtate, which requires great judgment and time before it can be altered.

Why ſo many Horſes miſcarry when they come firſt into Buſineſs.

When a Horſe is juſt come out of the hands of a dealer, or if he has ſtood long in a ſtable eating full meals, and grown fat for want of exerciſe, he ſhould at firſt be very gently uſed. For when exerciſe is ſuddenly attempted while a Horſe is in this plethorick, and indeed, morbid ſtate, it inflames his blood, and, to make uſe of the common phraſe, diſturbs all the humours; and therefore the firſt thing I would adviſe ſhould be bleeding and lowering his diet, which however ſhould not be ſo much abated as ſome imagine, for a Horſe may ſuffer as readily by too great and ſudden diminution of his food, as by an increaſe of it, eſpecially the weaker and

Exerciſe after bleeding neceſſary.

more delicate ſort. Walking exerciſe is the moſt proper to begin with, and this ſhould be in the open air in good weather, for Horſes that have been kept long in a hot ſtable, cloathed and high fed, are very unable to endure the rain; but for the moſt part catch inveterate colds when they go out in wet weather, a thing I have often obſerved, and for the ſame reaſon, their ſtable ſhould at firſt be moderately warm, and their cloathing leſſened by degrees; and for want of theſe cautions many Horſes ſoon begin to look very miſerable after they come out of the hands of their kindeſt maſters, who fill their bellies, keep them in double cloathing in very hot ſtables, and above all, girt as cloſe as they can bear round their bodies with broad ſurcingles, and never ſuffered to breathe any air but their own hot ſteam and the ſteams that come from other Horſes.

Exerciſe in the open air of great ſervice.

THIS renders it abſolutely neceſſary to take ſuch Horſes into the air, and at the ſame time to be careful that they may not catch cold. They ſhould be walked in it at leaſt two hours on a day, and the further they are carried from home in that time the better. After a week or a fortnight a Horſe may be walked out twice a day, if the days are of ſufficient length, two hours in the morning and two hours in the afternoon; and as his ſpirit and vigour increaſes, ſo his exerciſe may alſo be increaſed, and the further he is carried from home, the greater benefit he will receive from the air; and after he has been about a month under this uſage, it will be proper to repeat the bleeding to cool his body, and to give him a feed of ſcalded bran two or thee times a week, to keep him from growing coſtive, and if he refuſes to eat it ſcalded, which ſome Horſes do that have been much cloyed with hot meat, it may be given raw and mixed with his oats.

Signs of thriving and amendment.

IT is always a good ſign of amendment in the habit or conſtitution of a Horſe when his thirſt and craving after water abates, for moſt Horſes that have been in good keeping, with little exerciſe, are always thirſty when they come firſt into buſineſs; for while their blood is thick and ſizy their mouths are dry and clammy, and their ſecretions very imperfect, and a good way to prevent this and many other accidents is to feed early, that he may ſtand ſome time to an empty rack, or upon his bit, before he is taken abroad, that both his hay and his corn may in ſome degree be digeſted; for many Horſes, when they are newly fed, crave after water as ſoon as they go out, tho' they have been watered before in the ſtable, but as this diſpoſition abates it is a ſign the conſtitution mends.

ANOTHER good ſign of a Horſe's thriving is when his ſweating abates, for every one knows that a foul Horſe will ſweat upon the leaſt exerciſe, and oftentimes ſtanding at reſt in his ſtall; but when the ſweating abates, or does not turn white like a ſoap lather, but runs off like water, it is gene-

rally

rally a ſure ſign that his blood and juices are mended, for a thick viſcid blood always produces a clammy and frothy ſweat. When a Horſe's coat lies cloſe and ſhines, when his Legs keep clean and do not ſwell in the ſtable, when his Limbs always feel cool and firm, when he feeds heartily, when he lies down and riſes with a good ſpring, when he ſtretches and ſhakes himſelf; theſe are all ſigns of health and vigour, ſo that his exerciſe may be ſtill increaſed, and at the ſame time he may be indulged in a more liberal diet.

But after all, ſome of theſe Horſes are much more difficult to be ſeaſoned and rendered fit for buſineſs than others; ſome have been ſo much glutted with food, and have been ſo long in the dealer's hands, that all the care and management in the world proves inſufficient to bring them to any tolerable appetite, and while a Horſe continues in this manner he is fit for no kind of uſe. Others will feed heartily on all that comes before them, but by reaſon of the extreme fizineſs and other diſorders of their blood fall lame, even in the mildeſt and gentleſt exerciſe. And this is that ſort of lameneſs which is ſaid to proceed from humours, and comes inſenſibly without any ſtrain or violence. Both theſe kinds of Horſes will continue to ſweat very much with their exerciſe, the latter by reaſon of pain in his joints and muſcles, and the former from meer debility and weakneſs. Theſe are caſes which often require purging and other evacuations, but this ſhould never be gone about until the heat and inflammation of their Blood proceeding from their previous high keeping is abated, after which it may be done with great ſafety, and often with good ſucceſs, except where the caſe is extremely obſtinate indeed. A poor feeder ſhould have his phyſick exceeding mild, and ſuch as will not inflame but cool the body, and likewiſe ſtrengthen the ſolids, which in ſuch a ſtate are greatly relaxed, and at the ſame time may carry off the ſlime and crudities of the ſtomach and bowels, which weakens digeſtion, and by that means tranſmits a crude nouriſhment into the Blood. But where a Horſe, at the ſame time he feeds well, is ſubject to lameneſs that moves from one part to another, his phyſick may be made of ſufficient ſtrength to reach the obſtructions of the remoteſt parts. And indeed, I ſhould readily adviſe purging moſt Horſes that come out of the dealers hands, as ſoon as the effects of their groſs feeding is ſomewhat carried off with bleeding, a lower diet, and moderate exerciſe; for till then purges are apt to inflame their blood and create many other untowardly diſorders. For the ſame reaſon, I ſhould never adviſe any one who buys a fine Horſe from a dealer, to ſend him directly to the riding Houſe to be loonged and put upon his haunches, until he has been cleanſed and ſea-

The uſual accidents that happen after full feeding and want of exerciſe.

The neceſſity of purging in ſuch caſes.

ſoned; for tho' ſome very hardy Horſes will go through this labour without any preparation, eſpecially when they meet with gentle uſage; yet I have known others that have been hurt by it, and rendered incurably lame.

How to be managed when they catchcold.

We often find Horſes at firſt catch very obſtinate colds, which pull them down and hinder their thriving, and the longer they have been in the dealers hands, the greater is their danger. I have already hinted at the reaſon why theſe are ſo much expoſed more than others to catch ſuch inveterate colds, and no one can be a ſtranger to this who has been in the dealers ſtables, and are any ways acquainted with Horſe-keeping, who cannot but obſerve how hot their ſtables are, and what addition they make to this heat by their exceſſive and unmerciful cloathing, and their manner of girding their bodies with broad ſurcingles to make them belly well, or let down their bellies as they term it, which artifice greatly expoſes ſuch Horſes to colds, and to many other miſchiefs whenever they come into different keeping; and therefore this one caution may be again repeated, not to abate their cloathing too ſuddenly, but by degrees, to keep them at firſt with a double ſurcingle, but not to be bound tight, and ſo by degrees to a ſingle one; for a belly that is increaſed by bandage, however well it may look to the eye for the preſent, can be no benefit but a detriment to the Horſe, for which I could give demonſtrative reaſons from the animal ſtructure and œconomy.

Horses newly bought of the dealers ſhould alſo be put into warm ſtables, in ſtandings that have not lain empty, but where other ſound Horſes have ſtood, which is the beſt airing of all others for Horſes Apartments. And this caution is the more neceſſary becauſe the colds that ariſe from ſuch extremes are very apt to produce fevers of the worſt kind, and to leave ſome taint behind them, even when their fevers go off, unleſs where they are managed with more ſkill and judgment than what is uſual, and are afterwards forced to be turned to graſs to have a long run there before they are fit for any uſe.

A ſummers run at graſs ſometimes neceſſary.

This leads me to take notice of the advantages Horſes receive from graſs, and to ſhew which are the Horſes that ſtand moſt in need of it, and are moſt likely to receive benefit from it. And firſt of all ſuch as have ſtood long in the Houſe glutted with food, ſuffocated with heat and want of air, and enervated for want of exerciſe, tho' they be clean fed, yet they are apt to grow ſo full of humours that they require to run a conſiderable time abroad at graſs to cleanſe them, before they are fit for buſineſs; and indeed, graſs is a vaſt benefit to them, as it is their moſt natural food. And when Horſes do not thrive at graſs, it is often owing to ſome miſmanagement,

miſmanagement, ſuch as turning them out of a hot ſtable abruptly, about the latter end of *March*, or the beginning of *April*, in the ſharp eaſterly winds, or in the latter end of the year when the nights grow long, and the heavy rains begin to fall. I have known ſeveral Horſes ſuffer from theſe errors, and when it is ſo, the only remedy is to continue them abroad; for what damage they receive from the cold in the ſpring, generally wears off when the young graſs comes up in plenty, and the weather grows warm. And as for thoſe that go out in the latter part of the year, they ſhould always be ſent where the grounds are dry, and where they have ſtables or ſome other good ſhelter from the weather. I only mention this to thoſe who are unacquainted with ſuch things. And I would adviſe thoſe who have fine Horſes that have ſtood all the winter cloathed and well fed in a warm ſtable, not to turn them out too early, for tho' we daily ſee coarſe plain Horſes turned out to graſs at all times without any care or concern in the owners, and come to no hurt; yet it often happens otherwiſe to fine Horſes that have been delicately kept, and therefore theſe ſhould always be prepared for graſs firſt, by leaving off their cloathing gradually, giving them more air in their ſtandings, walking them often abroad, or ſuffering them to lie on their wet litter, and at the ſame time lowering their diet and feeding only with hay; and where there is not ſufficient time for preparation, two or three purges may be given; only in this caſe let the Horſes have ſome reſpite after them before they are turned out, for Horſes that are ſomewhat reduced in their fleſh always thrive better than thoſe that are turned out fat and full of blood.

The ſalt marſhes often the moſt proper.

I have already taken notice, that the beſt graſs we have for rectifying the conſtitutions of Horſes, is the ſalt marſhes; and tho' indeed we have ſome inſtances of Horſes that have ſoon died there, theſe are but few, and no wonder, conſidering many are carried there, as conſumptive People are ſent to the Gravel Pits, when all expectations from the common means are laid aſide. Nevertheleſs great numbers of Horſes recover in the marſhes beyond all expectation, in chronical diſtempers, eſpecially where their vitals happen to be ſound, or but little tainted. And I may venture to ſay, when a diſtempered Horſe dies ſuddenly at the marſhes, it is a good riddance to the owner. Thoſe who have not the conveniency of the marſhes, may turn their Horſes out upon ſome other good paſture in a moderately warm ſoil, where the graſs is fine, and has never been forced with dung or other unkindly manure, and where there is good water and proper ſhelter.

I need not mention thoſe Horſes that are turned out to graſs merely for conveniency, or to ſave the charge of keeping them in the houſe, as we may

may ſuppoſe ſuch either to be of no great value, or to have no diſtemper that abſolutely requires it, my buſineſs being chiefly with Horſes that have either ſome diſorder actually begun, or are in danger of ſome diſorder coming upon them.

When a Horſe has been carefully looked after both in his feeding, exerciſe and dreſſing, has had good hay and corn without exceſs, his exerciſe regular, and conſtant care in giving his water, with all the other requiſites for preſerving him in good health; yet if after all this he falls off his ſtomach, and continues ſo for ſome time without amendment, but rather declines even when he has had purges and other helps to make him thrive, it is a ſign of ſome latent diſtemper, and if it cannot be diſcovered by any appearances in the dung or urine, or other uſual prognoſticks, which a knowing perſon may ſometimes do, then the beſt way is to turn him out to the ſpring graſs as ſoon as the weather is favourable; for Horſes in this condition often come to their ſtomachs and feed well after they have been purged and ſcoured at graſs, when no other method will prevail.

The ſigns that uſually require graſs.

Many Horſes tho' they are no ways ſick or diſtempered, yet give plain and viſible ſigns of their want of graſs. Theſe feel parched and dry in the graſs ſeaſon, and uſually mangle their hay, and as often as they are carried abroad always turn their eyes towards the green fields, even ſo as to be ſometimes troubleſome to the rider by their continual craving after them; but none are ſo apt to crave after graſs in this manner, as the Horſes newly come out of the country that have been uſed to it every ſeaſon, and unleſs they have a good deal of exerciſe and riding to break off this habit, will pine very much for the want of it. And therefore the beſt way to prevent fevers and other ſuch like accidents, which this longing ſometimes brings, is to allow them a month's running. I only mention this advice to thoſe that live altogether in town, who may turn their Horſes out ſomewhere near at hand, whence they may be taken up at pleaſure to ride ſhort journeys, and by that means be no ways deprived of the uſe of them.

Horses that have been very hard worked on the road, or in any other laborious exerciſe, ſometimes ſtand in great need of graſs; for we often find Horſes after ſuch uſage grow ſtiff in their limbs, breed windgalls, with ſwelled legs, ſtaring coats, and ſeveral other ſymptoms of approaching complaints, which may be better remedied by running abroad than in the houſe. And ſome of theſe may require it longer than others, according to the degree of injury they have received, or according to the nature of their conſtitutions, or the ſoil they go into. In all which caſes reſt and eaſe in the open air, with their cooling diet, is greatly beneficial.

HORSES that are of a right mould to carry fleſh, and are paſt growing, which yet do not thrive in the houſe, may be ſuſpected to have ſome beginning diſorder, and therefore do beſt at graſs; where I have known ſuch Horſes often recover, both to look well and to do good ſervice. And I need not ſay how neceſſary graſs is to Horſes that have a ſurfeited look, eſpecially thoſe that do not ſhed their coats in a kindly manner, or in the proper ſeaſon; which if it is not owing to ſome inward complaint, yet at leaſt it diſcovers a cutaneous diſorder, that requires to be ſpeedily removed. In ſuch caſes the ſalt marſhes, or ſome very young paſture near the banks of a running river, is the moſt likely to ſucceed.

THOSE that have had fevers or other ſickneſs in the ſpring of the year, often require graſs upon their recovery, and ſome crave ſo eagerly after it, that they do not come eaſily to their appetites without it; and certainly nothing reſtores Horſes ſooner after ſickneſs than graſs, becauſe they are then prepared for new blood and new juices, which the graſs gives them ſooner than any other food. Horſes that peel ſpring and fall, which is moſt apparent about the roots of their Ears, Necks, and Cheeks, the effect of ſome ſurfeit ill cured, require the ſpring graſs, and ſometimes for ſeveral graſs ſeaſons together before ſuch deformities can be removed; tho' in ſome degrees, and in ſome conſtitutions theſe ſymptoms will return annually, notwithſtanding all the means that can be uſed to prevent them.

MANY turn out Horſes to graſs for lameneſſes without any good effect, and ſometimes they return worſe than they went out, which is generally owing to ſome error or miſtake. In all new lameneſſes reſt and proper applications are neceſſary, and alſo that the part ſhould be kept from the cold and a damp air, which cannot be eaſily avoided at graſs, at leaſt till the weather grows warm and dry. If the lameneſs be in any of the joints, it always proves more obſtinate than when it happens in the tendinous parts, and in the tendinous parts more obſtinate than in the fleſhy parts, and a Horſe of ſpirit when he is turned to graſs for lameneſs, runs greater riſques than others that are more calm and temperate; for theſe ſeldom take reſt or move ſo gently as to favour themſelves that the parts may conſolidate and recover ſtrength, but are apt to ſtrain them afreſh and render their caſe more obſtinate. But hurts in the fleſhy parts, and even ſometimes in the Sinews, recover ſoon at graſs, unleſs when they are very violent, and that ſome proper applications or neceſſary manual operation has been neglected, that ſhould have been done before they were turned out. Miſtakes concerning graſs.

MANY find themſelves diſappointed in turning Horſes to graſs, ſuppoſed to be lame with humors flying about them. That is, when they become

lame without any viſible hurt or known accident, which lameneſs appears ſometimes in one Shoulder, ſometimes in the other, and ſometimes behind. This ſort of lameneſs, is for the moſt part cauſed by a ſizy groſs Blood, which requires to be thin'd and attenuated. Many Horſes when they come out of the Dealers keeping, fall lame with rheumatick diſorders, as ſoon as they are put to any kind of buſineſs, others for want of ſufficient exerciſe, or very foul feeding, and from many other ſuch cauſes. And the reaſon why they often fail of ſucceſs at graſs, is pretty much owing to negligence in chuſing a proper paſture, which ſhould be the drieſt that can be found. Neither ſhould they be turn'd out till the weather is pretty warm, for when the Blood is of itſelf ſluggiſh in its motion for want of due fluidity, the lying upon cold damp ground, muſt naturally heighten the malady, and a very rank paſture will do the ſame, even when the ground is pretty dry; beſides, when Horſes Blood is in this ſtate, they are liable to many accidents abroad, to which they are not expoſed in the houſe, for there they often range over the grounds till they are hot, to avoid the ſtinging of the Flies, and get immediately into the ponds to cool themſelves, where they often ſtand a conſiderable time up to their Bellies, by which they greatly aggravate their lameneſs; and therefore the beſt paſtures for ſuch Horſes are thoſe, where inſtead of ponds there runs ſome brook or rivulet, where they can ſeldom go above their Knees, or on ſome good dry common, or on the ſalt marſhes, and with this precaution the owner may expect better ſucceſs. But I ſhould always chuſe to bleed and purge ſuch Horſes, before they are turned out, with thoſe things that are proper to attenuate the Blood, and to promote the ſecretions of which, ſome forms will be preſcribed hereafter. And I have often found purging alone, cure lameneſſes of this kind more readily than graſs, where Horſes are expoſed to all the above-mentioned, and ſometimes to many other accidents. And I have known the ſame kind of lameneſſes, cured by conſtant and long continued exerciſe, eſpecially journey riding, which from the nature of theſe diſorders, may be eaſily accounted for, eſpecially in young Horſes; for when Horſes grow old, the ſucceſs can never be certain, becauſe the lameneſſes of old Horſes, are often attended with ſtiffneſs in the Joints and Ligaments, and in many caſes, with incurable defects in their Nerves.

But the lameneſſes that chiefly require graſs, are where the Muſcles of the diſeaſed part are ſhrunk, and require to be kept continually in motion, with the help of a Patten Shoe on the oppoſite Foot, to oblige the Horſe to keep his ſhortened Limb upon the ſtretch, whereby the waſted parts, are ſometimes again reſtored to their uſual dimenſions, and the lameneſs recovered.

Horses that have been fired for lameness, upon the Joints or large Sinews, when they have rested a sufficient time after the operation, are also the better for going to grass, or running abroad in some open place, to prevent stiffness and contraction, some kind of bad footed Horses, especially such as have their Hoofs brittle, hard and flinty, become more soft and pliable by running abroad. Those that have their Feet impair'd and cut to pieces, in the cure of quittors, and other ulcers, and those that are worn down with travelling, or bad shoeing, are always soonest repaired at grass, with several other defects of the like nature. Horses may likewise be turn'd out after they have been cured of the farcy, to wear out the stiffness and callosity, that sometimes leaves a deformity on the Limbs, till all the Scabs and Scurff comes off, and the Skin and Ligaments of the Joints, where it is often deep rooted, grow limber and pliable, but then one ought to be careful, that the farcy is perfectly eradicated, otherwise it will soon break out again, and perhaps with more rankness than before.

Several other cases might be mentioned, wherein grass would perhaps be convenient, as particularly for Colts, and young Horses, which sometimes fall into peoples hands, before they are fit to be put to business. Horses that have been long costive, where all proper means have been used in vain to remove it; but what is further needful on this subject, may be left to every ones discretion, and therefore I shall now proceed to shew, what are the effects and benefits of soiling, and how that ought to be managed.

Soiling Horses in the House, proves sometimes beneficial, and sometimes hurtful, either when a Horse's case has not been rightly judged of, or when the stuff made use of for soiling happens to be bad. Geldings are not frequently soil'd, but chiefly ston'd Horses, because it is difficult to procure good inclosures for them to run single abroad, without much charge and trouble, for two of them will seldom agree long in one place. And therefore I should never advise any one to turn stone Horses to grass, or soil them in the house, unless they had such complaints as absolutely requires it, for most of the disorders for which stone Horses are soil'd, may be remedy'd by feeding on straw for a time instead of hay, which they will dispense with much easier than Geldings; for many of our Geldings are apt to grow faint and weak without hay, and few of them can be brought to eat straw with pleasure. The use of Soiling.

If a stone Horse happens to be lame in such manner, as to require a place where he may range at pleasure, then an orchard, or some field that is exceedingly well fenced, should be provided for him; but if he has no lameness, but some other disorder, as heat, and eruptions on his Skin, that

What kind of Herbage the fitteſt forſoiling.

may require ſoiling, or if Geldings or Mares, are to be ſoil'd for any ſuch complaints, care ſhould be taken to provide ſuch herbage for them, as is young, tender, and full of ſap, whether green barley, tares, clover, or any thing elſe the ſeaſon produces; tho' green barley, is generally prefer'd to all others for this purpoſe, but then it ſhould be cut before it ſhoots into the ear, while it is full of ſap and moiſture, for afterwards it turns dry, and the ſtem grows tough and hard to digeſt. The ſame caution is no leſs neceſſary with reſpect to clover and tares, that theſe be young, and cut freſh once every day or oftner, otherwiſe they may eaſily do more hurt than good, for tho' a Horſe is ſo ſtrong by nature, and more vigorous and active, than perhaps any other creature of his ſize, yet his Stomach and Guts are but thin and ſlender, if compared with ſome other animals of the ſame bulk, and more eaſily diſtended, and therefore ſeems to require food of eaſier digeſtion, than the horned cattle, which is pretty manifeſt by the choice he makes for himſelf when at graſs, and therefore when the herbage with which a Horſe is ſoil'd, happens to be old, tho' a good feeding Horſe will eat it for want of ſomething better, yet I have ſeveral times known great diſorders follow upon it, by ſtopping in the Inteſtines like a bundle of ſmall twigs, and by not obtaining a free paſſage through them, has been attended with great inward heat, heavineſs of the Eyes, reeling, loſs of appetite, and other untowardly ſymptoms, 'till a plentiful diſcharge of Dung has been procured by emollient glyſters, which I have ſeen come away in great clods, very hard, black, and fœtid, not unlike what has lain a conſiderable time mellowing, and rotting on a dunghill, in the ſame manner as happens ſometimes to Horſes, that are fed with rye-graſs and clover, where they have not ſufficient work or exerciſe to digeſt it. I have known others, perhaps where the digeſtive faculty has been ſtronger, break out about their Necks, Rumps, and other parts of their Bodies, and ſometimes on their Limbs, with many other ſigns of a ſurfeit, to the great ſurpriſe and diſappointment of the owners. For all ſuch herbage when it is diveſted of its ſap, has very ſoon a tendency to putrefaction, and therefore not only induces a lentor in the firſt paſſages, *viz.* the Stomach and Guts, but alſo in the Blood, cauſing obſtructions in the ſmall capillary Veſſels towards the Skin, by its viſcidity and coldneſs, at length producing that acrimony and ſharpneſs, which ſhews itſelf in eruptions, an effect very contrary to what is intended by ſoiling. And therefore thoſe who would ſucceed well in ſoiling Horſes, ſhould be near the place where it is cut, that it may be freſh, at leaſt every morning, and leave off when it becomes old and rank, or elſe to go on with ſome other herbage which is of later growth, till the Horſe has been ſufficiently cool'd and purged.

I have obſerved ſome Horſes that have purged but little in ſoiling, others have purged a great deal more than what is uſual at graſs, which may ſometimes be owing to the goodneſs or badneſs of the herbage, to its being younger or older, freſher or ſtaler, and perhaps ſometimes to the difference of the ground on which it grows. However I am apt to think, this is as often owing to the difference of conſtitutions in Horſes, as to any other cauſe, for when ſeveral Horſes are ſoil'd together, we ſhall ſee ſome purge till they fall away and grow lean, ſome purge very gently, and others ſcarce purge at all, tho' they are all fed alike, and with the ſame herbage, and the ſame diſcrimination is often obſervable at graſs, which only ſhews, that ſome Horſes are not ſo eaſily mov'd to purge as others, tho' it is probable thoſe that purge the leaſt, ſtale the moſt plentifully, which in ſome caſes may be equally advantageous.

Cautions in Soiling Horſes.

When Horſes loſe their Fleſh much in ſoiling, they ſhould be taken off to a more ſolid diet, otherwiſe I have known them grow ſo poor and weak, that it has been ſome time afterwards before they have recovered their Fleſh. In this there is a great difference between ſoiling and grazing, for if Horſes loſe their Fleſh never ſo much at graſs, yet they ſoon grow fat after the purging, for there they have the benefit of the open air, and great choice, which advantage Horſes at ſoil have not, but are forced to be taken off abruptly to dry food. And therefore when a Horſe has done ſoiling, he ought to be continued ſome time to an open diet, at leaſt a fortnight or three weeks. A little ſweet bran may at firſt be mixed with his oats, and his hay ſprinkled with water juſt when it is put into the rack, and every day gentle exerciſe, increaſing both his food and exerciſe by degrees. He ſhould alſo be dreſſed gradually, and only littered down in the night, and not to lye conſtantly on his litter for the firſt fortnight, all ſudden changes from hot to cold, or from cold to hot being hazardous, after which he may be curried and dreſſed as uſual, and his diet increaſed, to render him fit for buſineſs. Indeed we find ſome Horſes ſo hardy, that they ſcarce need theſe precautions, yet no Man can well err in a reaſonable care to prevent accidents, which ſometimes happen where they are leaſt expected.

Horſes taken up from graſs how to be managed.

As for Horſes newly taken up from graſs, they require a ſomewhat different management, and this alſo varies, according to the time they run abroad, the ſeaſon of the year, and other reſpects, that may require more or leſs preparation, before they can be made fit for buſineſs. Horſes that have only run about a month or five weeks at the ſpring graſs, need not be ſo much minded as thoſe that run the whole ſummer; and thoſe that run the ſummer only, are eaſier habituated to the houſe, than ſuch as run the whole year.

year abroad. But I only ſpeak with reſpect to the generality, for ſome are ſo hardy and inſenſible of changes, that they need but little attention how they are ordered, nevertheleſs we may obſerve, when Horſes are taken up from graſs into the houſe, and put immediately to hard meat, after a long diſuſe of it, they are at firſt, apt to turn hot and coſtive, which diſpoſition, is uſually followed with other complaints; and therefore to avoid ſuch inconveniencies, they ought firſt to have a mixture of bran, and a little chop'd ſtraw with their corn, and ſometimes a feed of ſcalded bran, for a fortnight or longer, to keep them cool and open; after that, they may be allowed clean corn, with plenty of water, given often in ſmall quantities, and at the ſame time, ſhould have their exerciſe abroad in the open air.

But Horſes that run the whole ſummer at graſs, require more airing abroad, than thoſe that have only been at ſpring graſs, for the uſe that moſt people want of them in the ſummer, renders all cautions herein almoſt unneceſſary; and therefore Horſes of value, ought always to be taken up before the long nights and latter rains, not only that they may have fit weather abroad for their exerciſe, which is very neceſſary, but becauſe the latter graſs has little ſpirit in it, and at beſt affords but a foggy nouriſhment, tho' it often makes Horſes look plump and fat. Beſides, that fine thin-ſkin'd Horſes, are ſeldom able to endure the heavineſs of the Rains, nor to lye on the wet ground, for the reaſons that have been already given, but are thereby expoſed to many dangerous accidents, of which I have known ſeveral inſtances.

Running abroad in Winter.

Horses that run abroad the whole winter near *London*, are generally brought into ſome dry ground, where they have ſhades or out-houſes to go into, as ſoon as the ground on which they were grazed turns potchy. Here they continue till the return of the ſpring graſs, which they are ſuffered to go into as ſoon as it is ready for them, without waiting for warm weather. This method I have often approved, and I look upon Horſes not to be ſo much expoſed by it, as by running late in the year, and then brought directly home into a warm ſtable, whereby they often turn very thick winded, occaſion'd by a poor viſcid Blood, from the fog that ſprings up with the winter graſs, in many of our common paſtures; ſometimes their Bellies and their Legs, ſwell to a very extraordinary degree, and requires a ſkilful management to remove ſuch indiſpoſitions; but this may in a great meaſure be avoided, by running abroad in ſome good roomly yard, and after they have had the ſpring graſs, they are generally fit to go into any buſineſs without much preparation.

Those

Those that run abroad in the salt marshes are seldom housed or brought under any cover, as I have already taken notice, and yet for the most part do better than those that are fothered all the winter, who require the spring grass very much to repair them. I have known several Horses brought up from the marshes in the winter months in good order, and have been fit for business in a short time afterwards. And I have been told it is no unusual thing to take up Horses from the marshes, and send them a long journey directly without any preparation; and I am the more ready to believe this, because I have several times known Horses taken off the dry commons in winter and perform very well on the road.

But it is quite otherwise with those that go on our common pastures, either in cold clay grounds, or where the grass is forced with dung. These, at least many of them, require a good deal of management before they are fit to be put upon any hard service; some are so foggy and breathe so thick when they come to stand in the house, that those who are unacquainted with the reason of this symptom, always suspect their wind to be going, which sometimes so happens where care is not taken to prevent it. Others swell all over their Bellies and their Legs to such a degree that they are unable to lie down, and can hardly be moved out of their standings; but this is more peculiarly the case of those that are naturally subject to such infirmities, and therefore should be kept altogether in the house, or run constantly abroad, as will be shewn more fully hereafter, when I come to treat of swelled Legs, *&c.*

Now it ought to be a general rule in ordering Horses newly taken up from grass, to augment their airings and exercise in proportion to the time they have run abroad, and the season in which they are taken up into the house; and as their airings and exercise is increased, so their diet may also be augmented, both as to its quantity and solidity, *viz.* by changing from a lower diet where there is a mixture of bran and other loose food, to clean oats and hay; neither should they at first be shut up in warm stables, but in stables that have been seasoned with other Horses, where there is a free air, and places to let it in at pleasure. And therefore I need only add to what I have already advanced on this subject, that the longer a Horse has run abroad in the open air, the more he should be kept in his airings when he returns home; and upon this account, it is a great advantage those Horses have that are taken up after they have had the spring grass, or even when they are taken up before that time, when the spring is advancing, when the blood of all animals is more exalted, and in much brisker motion with the advanced season, when the weather is fine, the days grow-

ing long, and when all nature ſeems to have the chearfulneſs of youth. Whereas thoſe Horſes that are taken up in the winter quarter have not theſe advantages, the days being ſhort, the air damp, and oftentimes the weather ſo bad that they can but ſeldom be carried abroad. And if we add to this the natural decline that the conſtitutions of many Horſes are under at this time of the year, eſpecially geldings, their blood being then poor, viſcid and ſluggiſh in its motion, we may eaſily perceive the difference, and experience will ſhew us how difficult it is ſometimes to raiſe them up for uſe and ſervice.

Some give their Horſes Antimony after graſs, ſome Antimony and Sulphur in equal quantities. Theſe are generally mixed with their bran, in which all powders mix more eaſily than with oats. Others give the *Crocus Metallorum*, or Liver of Antimony, with a view to ſweeten their Blood, and to keep them open; nevertheleſs I have known many Horſes do well without the uſe of theſe things, only by proper airings and a well managed diet. The Antimonials are chiefly neceſſary to Horſes that are taken up in winter to warm and invigorate their blood, which indeed is the more wanting when the graſs has been but indifferent, eſpecially for thoſe that go upon the aftermaſh, where a large crop of hay has been firſt taken off the ground. This ſort of graſs is commonly thick enough and plentiful about *London* in dreeping wet ſeaſons, and the Horſes that feed upon it will be full of fleſh, after the hot weather and the ſtinging of the flies is over; but on grounds that have been much dunged, often grow full of bad blood, that requires Antimonials, or ſome other alterative, to correct it. But the diſpenſer of theſe things ſhould be careful to get them good of their kind, otherwiſe they may looſe much of what they aim at. The Antimony that is in large pieces, clear and ſhining, the colour of poliſhed ſteel, is always the beſt, for that which is black and crumbly is not ſo pure, and ought to be rejected. It ſhould not be given in groſs powder, as is generally practiſed, but pounded till it is very fine, otherwiſe little of it will enter into the maſs of blood, but will ſometimes, eſpecially when given in large doſes, make Horſes ſcour more than is neceſſary; but when it is mixed with Sulphur in moderate doſes, it becomes ſerviceable in carrying off thoſe coughs Horſes often bring with them from graſs, about the beginning of winter, and helps to preſerve their wind. The *Crocus Metallorum* is generally ſold for Liver of Antimony, the difference being no other than that the latter is not ſo much diveſted of its ſulphurs as the other, and therefore if the firſt be free from the *Scoria* or droſs, the doſe ſhould not exceed an ounce a day; for when it is given in larger doſes, inſtead of promoting a moiſture

Antimonial and other alterative powders ſometimes neceſſary after graſs.

The neceſſity of ſound drugs.

moisture and breathing through the skin, which is the thing intended by it, it is apt to create heat and dryness in some constitutions; for when the Blood is extremely viscid, and passes with difficulty through the small vessels of the skin and other extremities, those things that are designed to accelerate its motion, by meeting too great resistance, may sometimes retard it, and the active particles of the Antimony being thus divested of its sulphurs, may create heat, by driving the blood into those parts before it is sufficiently attenuated to pass through them; and therefore when any such effect happens upon giving the *Crocus Metallorum*, that there is no kindly moist feeling on the skin, but rather heat and dryness, the best way is to bleed and to lessen the dose to half an ounce, and afterwards to increase it, or rather, which I think the better way, to begin with crude Antimony and Sulphur, or Antimony and Gum Guiacum; and after the Blood has been gradually warmed and attenuated with these things, the Liver of Antimony or *Crocus Metallorum* may be administered with more success.

Some purge their Horses before they turn them out to grass, and some only when they return from it. As for purging before they go out, I cannot see that this is always needful, unless when a Horse is very much loaded with flesh, and then indeed not only purging, but bleeding and rowelling may be also necessary to prevent his being surfeited; but except in such cases as this, I should think the best way to prepare Horses for grass is, to lay them cool upon their dung, to open the windows and air-holes, if it be in summer, and lower their feed; and I have known great numbers of Horses turned out successfully without any other preparation. However, if a Horse was to have any kind of physick given him before grass, it should be milder than what is usual, and compounded of the best drugs; for sometimes the effect of bad drugs do not go off immediately, and before that, it would be dangerous to turn a Horse out to grass.

Indeed when Horses are taken up from grass, purging is sometimes useful and necessary, especially those that have run all the summer abroad, and are apt to have their Legs swell when they come to stand in the stable. But this should not be gone about immediately, while their Blood is poor and abounds with thin watry serosities, and their spirits languid, till they have been repaired with a more generous diet, otherwise a Horse will go through his purging with some difficulty, and perhaps not without danger. But when a Horse has been a while habituated to the house, and had some feeding, and begins to thrive, but not so as to have the swelling of his Limbs come down, purging will then be necessary to discharge the viscid serosities out of his Blood. But the purges proper in such cases should al-

The proper time of purging after grass.

ways have a mixture of ingredients that are cordial and at the ſame time diuretick, otherwiſe they will do but little ſervice, as I have often obſerved. And in ſuch caſes ſome Horſes cannot be cured but by the moſt powerful diureticks joined with reſtringents, to recover the tone of the Fibres, which are always greatly relaxed when the Blood becomes poor and watry, by running long abroad on many of our common paſtures.

Rowelling ſometimes needful.

Some rowel their Horſes after graſs, which is often needful as a help to proper internals. But if a Horſe's Blood is watry, and his Belly and Legs ſwoln, he ought by no means be rowelled till his conſtitution is ſomewhat amended, and the watry diſpoſition of his Blood ſomewhat abated by a more nouriſhing diet. I have ſeen ſuch a profuſion of humours upon new made iſſues in the Bellies of Horſes taken up from winter graſs, that it has been extremely difficult to prevent mortification, and ſome will diſcharge ſeveral gallons of a viſcid water before their rowels come to a thorough digeſtion, not unlike what is drawn from dropſical perſons, after which theſe rowels do great ſervice; but it is much ſafer to avoid the danger, which may be done by draining off a great part of the water with proper purges, but eſpecially diureticks, made up with ſteel powders or forge water, to which muſt be joined, moderate exerciſe and a good nouriſhing diet, 'till the watry diſpoſition that ſhews itſelf about the Belly-ſheath and Legs is abated.

Precautions concerning rowels.

Further cautions concerning bleeding and purging.

As to the general uſe of bleeding and purging to prevent ſickneſs in Horſes, and to render them the more fit for buſineſs; tho' I have already mentioned ſomething of the prepoſterous and ill-judged uſe of all ſuch means, yet I ſhall lay down ſuch caſes wherein I think it may be needful, or at leaſt juſtifiable, to bleed and purge: And firſt as to bleeding.

Those Horſes that ſtand much in the ſtable, and are full fed, require bleeding more than thoſe that are in conſtant exerciſe; but eſpecially when their Eyes look heavy and dull, red and inflamed, or when they look yellow or inflamed in their Lips and inſides of their mouths, when they feel hotter than uſual and mangle their hay. Theſe are all indications that require bleeding, and likewiſe to lower their diet, until they have more exerciſe. Young Horſes ſhould be bled when they are ſhedding their Teeth, which is a relief to them, and removes thoſe feveriſh heats to which many are ſubject at that time. The ſpring is always a proper ſeaſon for bleeding, becauſe their Blood is then more luxuriant than at other times, and in ſummer it is often neceſſary to prevent fevers, always chooſing the cool of the morning, and keeping them cool the remaining part of the day.

Some bleed their Horſes three or four times a year or oftner, by way of prevention. Theſe take away a very ſmall quantity at a time, not exceeding a pint, or a pint and a half, only to give a kind of briſker motion to the Blood, and by that means to preſerve, or render it more thin and fluid, and to prevent its ſtagnating in the ſmaller Veſſels, which indeed is the firſt beginning of almoſt all diſeaſes; but how far this ſucceeds, can be beſt known to thoſe who have practiced it a ſufficient time. However, there is this inconveniency from frequent bleeding, that it grows into a habit, which in ſome caſes, cannot be eaſily broke off without hazard; and I have known Horſes become weak with frequent bleeding, and ſome have had their Necks ſo full of ſcars, that they have been apt to inflame and feſter, every time they were bled, which is always troubleſome, and often ends with the loſs of the Vein. And therefore to prevent ſuch accidents, thoſe who bleed Horſes, ſhould not confine their operation to one place of the Vein, as they generally do, but uſe themſelves to open it higher or lower, as they ſee occaſion; and if they meet with any difficulty in bleeding the Neck Veins, the Plate Veins, or any other large Veins, that can be made to run a full ſtream, will equally anſwer the ſame end.

The Caſes that moſt require bleeding.

But the caſes that require bleeding moſt, are colds, fevers of almoſt all kinds, falls and bruiſes, which ſometimes are dangerous to Horſes, becauſe of their great weight. Hurts and wounds of the Eyes, ſtrains in hard riding, or drawing, and all other accidents, where a ſtagnation of the Blood may be ſuddenly expected, or where the ſmall Veſſels may be broke, and the Blood extravaſated. Thoſe that refuſe their food after riding, or any ſort of work, require to be bled more frequently than others, to prevent fevers, and inward inflammations of the Lungs, the Liver, or any other of the principal *Viſcera*. It is no leſs neceſſary to bleed Horſes at graſs, when the purgation is over, that they begin to take on fleſh, or at any other time, when they look heavy about their Eyes, for this is a proper indication for bleeding, and ſome rank paſtures require bleeding more than others.

There are alſo other indications, that require bleeding by way of prevention, *viz.* when any epidemical diſtemper prevails among the Horſes, at ſuch times the ſound Horſes may be bled, to keep them if poſſible from being infected; and if the contagion continues, it may not be amiſs to repeat the bleeding once in two or three months or oftner, but in ſmall quantities, for the loſs of too much Blood, may be hurtful in ſome times of contagion. It is likewiſe neceſſary to keep the ſound Horſes from the unſound, or remove them into places where the infection has never ſpread itſelf. I could, beſides theſe, mention ſeveral more caſes, where bleeding might be judg'd

proper, even where there is no plain ſymptom of any beginning diſeaſe, ſuch as plenitude, and fulneſs of the Veins, ſtaling ſmall quantities, and of a very high colour, denoting inward heat, and craving after water, and ſuch like: and it is for the moſt part neceſſary to bleed before purging. But I ſhall not here enumerate any other, but leave what is to be ſaid further on the ſubject, to be treated of hereafter, where the indications that require bleeding, either in diſeaſes already begun, or where they are only threatned, will be further diſcuſſed.

Further Cautions concerning Purging.

PURGING is another very uſual and common expedient, to prevent diſeaſes, but eſpecially thoſe accidents to which Horſes are often expoſed, in the common ſervices we require of them, *viz.* to prepare them for running, hunting, or any other laborious exerciſe. If the purging ingredients are good, and the purges well made, they not only bring the Blood into a better ſtate than it was before, but by leſſening the quantity of the Fluids in Horſes that have been high fed, render them more ſtrong and vigorous, and conſequently more able to endure labour; but when their purges are made too violently ſtrong and griping, they often do more hurt than good. And I believe, I need not acquaint any one who knows what belongs to horſe-keeping, how much miſchief has been done by purging Horſes, either when the ingredients have been bad, or when the purges have been made too ſtrong, or when they have been ill tim'd, all which things ought to be regarded in purging.

Caſes that require it moſt.

HORSES that are kept much in the ſtable, and have not air and exerciſe, in proportion to their food, require to be ſometimes purged, eſpecially in the ſpring, which is the beſt ſeaſon for purging, but in caſe of neceſſity, at any other time of the year, tho' the temperate ſeaſons are always to be prefer'd for that purpoſe; and theſe Horſes that ſtand much, and have but little exerciſe, ſhould in ſome meaſure be prepared for their purges, as has been already mentioned, by bleeding, lowering their diet, and giving them ſome feeds of ſcalded bran, eſpecially the day before their purges are adminiſter'd, by which they will go off the more eaſily, and without violent gripings.

HORSES that fall off their Stomachs, whether that proceed from too full feeding, ingendering crudities and indigeſted matter in their Stomachs and Bowels, bad provender, or from any other cauſe that may relax them too much, as a long continued uſe of ſcalded bran; in all ſuch caſes, purging comes inſtead of vomiting to Horſes. But if a Horſe has been obſerved to feed but poorly for a conſiderable time, his purges ſhould be mild, eſpecially the firſt; it ſhould not be made of the common plantation Aloes, but of the Succotrine, and mixed with diuretick ingredients, to promote the diſcharges by

by Urine, as well as of the Dung. The ſame care ought alſo to be taken in purging Horſes that are of a hot temperament, and with their fretting are eaſily inflamed, and loſe both their Appetites and Fleſh. Theſe Horſes often agree with bleeding, but are no ways able to endure the common purges, that are apt to cauſe too great a ferment in the Blood, and for the moſt part, do not work off ſo kindly as one could wiſh, and therefore they ſhould be both mild, cooling, and well corrected.

PURGING is alſo neceſſary for Horſes when they have ſtubborn, dry coughs, that threaten their wind, thoſe eſpecially, that are great and foul feeders. It is impoſſible to imagine the benefit theſe receive ſometimes from purging, more than from all the pectorals that have ever been adminiſter'd in ſuch caſes, tho' it is always good to join theſe along with their purges. In this caſe, their purges are alſo the moſt efficacious, when they are join'd with ſome mild mercurials.

HORSES that are ſubject to rheums, and defluxions on their Eyes, often receive benefit from purging. But their purges ſhould be little more than alteratives, and ſuch as promote Urine plentifully; for ſtrong purges, inſtead of doing good to the Eyes, fix the humors there, and render the caſe more obſtinate.

A Horſe that has humors flying about him, that ſometimes go off inſenſibly and diſappear, or if they break out in impoſtumes, and boils, that diſcharge of themſelves, require purging, which is always neceſſary after ſuch eruptions, as alſo after dry, or moiſt warbles.

HORSES that have thoſe ſort of lameneſſes, that are ſaid to proceed from humors, which in ſome are of the rheumatick kind, but in young Horſes, are for the moſt part owing to a ſizy Blood, or to exerciſe they have not been accuſtomed to, breaking or bruiſing the ſmall *fibrillæ* of the Muſcles. Theſe lameneſſes are ſeldom fixed to one place, as ſtrains, violent blows, or any other kind of hurt cauſed by external accidents, but for the moſt part always appear, firſt on one Shoulder, and then on the other, and often with a ſtraitneſs and confinement, from the Muſcles of the Breaſt, and in caſes where the Blood is in a very bad ſtate, ſhift from the fore parts, to the hind parts, and in ſome, will cramp almoſt all the Muſcles of the Body to ſuch a degree, that I have ſeen many Horſes in theſe circumſtances, rather creep than go. In this caſe, purging is not only neceſſary, but ought to be often repeated along with ſuch other medicines, as are proper to attenuate and thin the Blood, and render it more fluid, for the want of due motion in the Blood, ingenders many ill qualities in it, and produces lameneſs, and many

other

other evils, which will be treated of more fully in the enſuing part of this Work, with the way to redreſs them.

I ſhall conclude with another very common caſe, that requires purging as much as any other, and wherein purging often proves very efficacious, *viz.* Horſes of watry moiſt conſtitutions, that are ſubject to ſwellings in their Legs, which are ſometimes dry, and go down with exerciſe, but are apt to return and ſwell again, whenever they come to ſtand ſtill, ſometimes they break and run a ſharp briny ichor, which cannot be ſo well removed any way as by purging, eſpecially with ſuch things as diſcharge the watry ſeroſities in great plenty, and give a better conſiſtence to the Blood.

A GENE-

A GENERAL METHOD OF PURGING HORSES:

WITH

Some proper FORMS or PRESCRIPTIONS ſuited to the ſeveral Ends of PURGING.

BEFORE a purge is adminiſtred to any Horſe, it is neceſſary ſome preparation ſhould be made for it as circumſtances may require, in order to render purging the more ſafe, and at the ſame time the more efficacious, agreeable to thoſe hints I have already given in treating of diet and exerciſe, which I ſhall here ſo far reſume, as may be neceſſary for the inſtruction of thoſe who are but little acquainted with ſuch matters.

The manner of preparing Horſes for purging.

A Horſe that is fat and full of Fleſh, either from high feeding, want of ſufficient exerciſe, or from any other cauſe, it is proper, at leaſt adviſeable, that before purging he ſhould be bled, and at the ſame time ſhould have his diet lowered for the ſpace of one week before his firſt purge is adminiſtered; but this caution is more eſpecially neceſſary, for thoſe that have been pampered and kept up for ſale. For when Horſes in this condition have their humours ſtirred and agitated without due preparation, this ſometimes creates diſorders that may require a great deal more purging than would otherwiſe be neceſſary, and other means alſo to be uſed before they can be removed. It can never be amiſs to give ſome few feeds of ſcalded bran, eſpecially before the firſt purge, that the Horſe's bowels may not be too full and pent up with hard excrements. For this ſometimes hinders the operation of the phyſick, and creates great ſickneſs, which ought as much

much as poſſible to be avoided; for thoſe purges are the moſt efficacious and the moſt ſafe, that work off with the leaſt ſickneſs.

The firſt purge ought always to be mild.

THE firſt purge ſhould always be mild, unleſs where a Horſe's conſtitution is well known to be hardy and ſtrong, for ſome Horſes are indeed ſo ſtubborn in their conſtitutions that ſcarce any thing will move them. Nevertheleſs miſtakes of this kind may bring on a ſuperpurgation, which is always dangerous. And there is the more reaſon to be cautious in purging, becauſe Horſes differ very much in their conſtitutions; for we often find one Horſe purge violently with a doſe that would ſcarce move another; and the ſame Horſe will work powerfully with a moderate doſe at one time, and at another will purge but gently, and this change is often owing to the ſtate of the ſtomach and guts at the time when the purge is adminiſtered; for when theſe are foul a very ſmall thing excites them to throw off their contents, that at another time would ſcarce move them at all. And I have known an alterative that has not had above half an ounce of fine aloes in its compoſition, without any other purging ingredient, and has been deſigned only to open a Horſe's Body, ſo as to make him dung like a cow, purge a Horſe very much. And one may from ſuch examples, eaſily imagine what conſequences muſt have followed a ſtrong purge given at ſuch a critical time. Theſe things may alſo teach us in purging Horſes, how neceſſary it is to provide them with drugs that are good of their kind, and ſound; and likewiſe how needful it is that they ſhould be well corrected, eſpecially to Horſes that are apt to be ſick with their purges, and can have no relief by vomiting, as ſome others of the brute creatures, and even as men, who frequently vomit with their purges when their ſtomachs are full, or in caſe of more than ordinary delicacy in ſome conſtitutions, whereby they are eaſily twiched and ſtimulated with the pungency of a purging medecine ſo as to excite vomiting.

AFTER premiſing theſe things, I ſhall now lay down ſome preſcribed forms of purging for the various caſes mentioned in the preceeding diſcourſe, and ſhall begin with the following, which may be uſed with good ſucceſs in all common incidents where purging only is neceſſary.

Forms of purges.

Take Succotrine Aloes, ten drams, Jallap and Salt of Tartar, of each two drams, grated Ginger, one dram, Chymical Oil of Aniſeeds, thirty drops, Syrup of the Juice of Buckthorn Berries, ſufficient to make it into a ball, which may be rolled in Liquorice Powder or Flower.

THE

THE Aloes ſhould be picked clean from its droſſy parts, and then made into fine powder, the Jallap ſhould be freſh and newly powdered, for it is apt ſoon to decay if it happens to be expoſed in a damp place, as all roots and other vegetables are; and therefore the beſt way, when pounded, is to keep it in a wide-mouthed phial, well corked, and in a dry place, otherwiſe it may not anſwer expectation; whereas if this care be taken, it will always be a ſtimulus to make the purge work ſmartly, and greatly contribute to drain off the ſuperfluous humidity from the Blood, and the finer Aloes will no leſs contribute to attenuate and diſſolve its viſcid coheſions. In what manner purges ought to be prepared.

THIS will anſwer all the ends of common purging, where nothing elſe is required, eſpecially for Horſes that are not extremely hard to purge, and when this happens, another dram of Jallap may be added to the ſecond purge, that is, three drams inſtead of two, which will ſeldom fail working effectually and without danger.

ALL purges ſhould be given early in the morning, when the days are long, and in winter about eight of the clock is the beſt time, for working off their purges about the middle of the next day, when it is the warmeſt and the fitteſt time for that operation. They ſhould be given faſting, upon an empty ſtomach; and about three or four hours after, a Horſe that has taken a purge ſhould have a feed of ſcalded bran, and when he has eat that up, ſhould have a ſmall portion of ſweet hay let down into his rack, which may be renewed at proper times, according to his appetite. He may have one or two more feeds of ſcalded bran the ſame day, and if he refuſe to eat warm meat, which ſome Horſes will loath that have been cloyed with it before, he may be allowed raw bran, which, if he drink ſufficiently with it, will do the buſineſs perfectly well. All his water ſhould be made milk warm, while the purge is in his belly, with a handful of bran ſqueezed in it; but if he refuſe to drink white water freely, let him have it without the bran, for his purge will always work the more kindly that he drinks. The manner of giving purges and working them off.

EARLY the next morning he may have another ſmall feed of ſcalded bran, if his ſtomach ſtand affected to it. But if he does not chuſe to eat, which ſometimes happens before the phyſick has begun to work, when the ſtomach is ſqueamiſh, then let him drink as much water as he cares for, juſt with the chill taken off, and ride him gently, beginning with a walk, and afterwards a gentle trot, which will help his purging and make him throw out plentifully. This ſhould be done two or three times a day, unleſs he purge violently, and if ſo, once or twice a day will be ſufficient.

A Horſe in purging ſhould never be rode till he ſweat, otherwiſe it will run off chiefly in ſweat and urine, and indanger his catching cold. And for the ſame reaſon I ſhould never chuſe to have a Horſe cloathed in purging, with more than a ſingle cloth, and his hood tied on very looſe, that it may be laid aſide without danger, as ſoon as he is ſhut up and his purging ſtopped. At night he may be allowed a ſmall feed of oats mixed with his bran, and likewiſe the next day, if his purging continues. But when that is gone off, he may be fed with clean oats till the day before the next purge, when it will be proper to feed again with ſcalded bran.

Most of our jockeys and grooms work off their purges with cold water, which indeed is not a very commendable way, if circumſtances did not ſometimes render it unavoidable. When the coarſer Aloes are given, theſe ſort of purges make them ſo extremely ſick, that they will not touch water if it be the leaſt warmed; ſo that it is better in ſuch a caſe, to indulge them in drinking cold water, than not to drink at all, for drinking always ſets their purges a working, and prevents the dangers that otherwiſe might happen from coarſe or ill prepared phyſick; and indeed, ſome Horſes have ſuch nice and ſqueamiſh ſtomachs, that the ſame indulgence of drinking cold water muſt be allowed to them, even when their purges are made of the beſt ingredients and thoroughly well corrected. Not that good and well prepared phyſick will hurt a Horſe in any degree; for if it does not work ſenſibly in the diſcharge of great quantities of excrements, its operation may be very efficacious, as an alterative to purify the blood; and I have often given very mild purges for that purpoſe only, and with very ſurprizing ſucceſs in many caſes, to Horſes that could not bear ſtronger ones. But this is ſo contrary to the notions of the owners, and others concerned in them, who are greatly diſappointed if a Horſe's purges do not anſwer their expectation in the common way of emptying the Bowels and draining off a great deal from thence, that I have myſelf ſuffered them to drink cold water that they might purge the more plentifully.

The danger of purging with bad drugs.

If a Horſe be of a robuſt ſtrong conſtitution and a good feeder, he may be purged with the common Aloes, tho' I have generally myſelf uſed the Succotrine, and always adviſed it to others. And of the many hundreds of Horſes I have purged, or have been purged by my direction, I never had one that died in phyſick, or ever had any hurtful accident happen to them. But I have known many Horſes killed with purging, and others have been ſo jaded, that they have never totally recovered; and ſome that overcame the ſhock were forced to lie by a conſiderable time before they could be of any great uſe to their owners. All which was owing either to

the badneſs of the drugs, or to the ill timing the phyſick, or misjudging the Horſe's conſtitution.

THE Aloes that comes to us from our own plantations, is called Hepatick, from the reſemblance it has to the colour and variegations of a Liver. It is brought over in large ſhells of ſome kind of Gourd. That which uſually goes by the name of *Barbados* Aloes, is of a dark colour and very rank ſmell, and ſo rough in its operation, that many Horſes have been killed by it. But of late years we have a milder ſort, which goes by the general name of plantation Aloes, which is a good deal clearer than the *Barbados* Aloes. This is of a much paler colour, breaks more clean and ſmooth, and the powder more yellow, approaching nearer to the Succotrine, but nothing near ſo well ſcented, nor in its effects ſo well adapted to attenuate and ſweeten the blood; but makes Horſes extremely ſick, and runs off ſo powerfully in the dung, that thoſe who are unacquainted with the true end of purging, are often pleaſed to ſee them work in ſo violent a manner.

THIS ſort is chiefly uſed for purging Horſes, being much cheaper than the Succotrine, which comes to us from ſome parts of *Aſia*, wrapt up in ſkins. And if any one goes to an Apothecaries or Druggiſts to have a Horſe's purge made up, where Aloes is preſcribed, they ſeldom make it of the Succotrine, but uſe the plantation Aloes, or the coarſe *Barbados* Aloes, theſe being generally uſed for cattle. However, for Horſes of ſmall value that are hardy and good feeders, or for thoſe of ſtubborn conſtitutions that cannot be eaſily moved with mild purges, the cleareſt and beſt of this ſort may be uſed; and many give it without any other preparation than working an ounce before the fire, or ſqueezing it in a warm hand to make it into a ball, and then dipping it in oil thruſt it down without further ceremony, in a morning faſting. But I ſhould chuſe to correct it in the following manner.

Forms of purges for robuſt Horſes.

Take the beſt plantation Aloes, one ounce; freſh Ginger, grated, two drams; pound the Aloes very fine, with the grated Ginger and a little Oil of Amber, and make it into a ball, with Syrup of Buckthorn, and roll it in Flower of Liquorice Powder.

Or this,

Take of the beſt plantation Aloes, one Ounce; Caſtile Soap, half an Ounce; Ginger, two drams, or a dram of Powder of Cloves; make it as the other, with a ſufficient quantity of Syrup of Roſes or Marſh-Mallows. And roll it up, as the other, in Liquorice Powder.

But the following, which has ſo much of the Plantation Aloes in its compoſition, as to ſtimulate the other, and help its operation; I have ſometimes given with good ſucceſs to Horſes of value, that were of ſtrong conſtitutions, nd hard to work upon.

Take the fineſt Succotrine Aloes, one ounce; the beſt Plantation Aloes, and Cream of Tartar, rub'd together till they are well incorporated, of each two drams: Alſo freſh Jallap in fine Powder, two drams; Cloves in Powder, one dram, or two drams of grated Ginger; Syrup of Damaſk Roſes, ſufficient to make it into a due conſiſtence; with 60 or 100 drops of Oil of Amber.

If the Horſe be of a groſs conſtitution, two drams, or half an ounce of Caſtile Soap, may be ſubſtituted inſtead of the Cream of Tartar, which will render it more cleanſing and deterſive; and more ſafe and efficacious in carrying off bad humors, and cleanſing the Blood from its impurities.

I might here inſert a variety of purges, made of other purging ingredients, beſides theſe already mentioned. For the *Materia Medica*, affords great ſtore of ſuch things, as Scammony, Gutta Gamba, Hermodactils, Turpeth Root, Rhubarb, and many more, which I imagine would both be troubleſome and unneceſſary, in regard the Aloetick purges, with a proper Stimulus, ſuch as Jallap, or with Calomel, and other mercurial preparations, will anſwer all the ends of purging Horſes, better than any other. But I ſhould adviſe thoſe who give Calomel, to take care that it be well prepared, and when it is either given by itſelf, or added to a purge, the Horſe ſhould be kept extremely warm, with warm water, and good cloathing, but further directions will be laid down, when I come to treat of the caſes that require it.

Those Horſes that have a narrow ſwallow or rather, thoſe who take Balls with a reluctancy, may have one of the purging Balls diſſolved in a little Water-Gruel or Ale, made juſt milk-warm, and will come with a great deal leſs trouble and charge, than infuſions and decoctions of Sena, Rhubarb, or any other of the purging ingredients fit for this purpoſe, which are very well contrived for the Palates of Men, and their particular caſes, but not ſo very neceſſary for Horſes. Indeed laxative draughts are often made uſe of in ſeveral of the diſeaſes of Horſes; but as theſe do not come directly under the intention of purging, I ſhall omit them altogether in this place, becauſe I ſhall have occaſion to mention them hereafter, in thoſe caſes where they are the moſt neceſſary. There will alſo be inſerted ſeveral other forms of purges, ſuited to ſome particular diſeaſes that require purging, which

Laxative Draughts.

which will be taken notice of in their proper places; and therefore, I ſhall only add one or two preſcriptions more, of a milder kind than thoſe already inſerted for general uſe, which will do better for Horſes of nice or weakly conſtitutions, than thoſe that are ſtronger, and be more ſafe in their effects, of which kind is the following.

Take the fineſt Succotrine Aloes, one ounce; Rhubarb in Powder, half an ounce; Ginger grated, one dram; make it into a Ball, with a ſufficient quantity of Syrup of Damaſk Roſes. Mild Purges.

The Rhubarb will make this exceed the uſual price of a Purge, eſpecially when that drug happens to be ſcarce. But I believe few Gentlemen would grudge the expence, rather than run any hazard with a very fine Horſe, of a difficult conſtitution, eſpecially thoſe that are very moderate feeders, and eaſily fall off their Stomachs after briſk exerciſe, which is the caſe of many genteel and pleaſant Horſes. Three or four of theſe purges will greatly help them, and make them grow both in Fleſh and Appetite, whereas the common purges, would go nigh to ſend ſome ſuch Horſes to the Dogs.

The following is alſo a very mild efficacious purge, and much cheaper than the preceeding; it may be given to any conſtitution, and in any ſtate, where a Horſe is not directly ſick. It will purge ſome Horſes ſufficiently, and prove a ſafe and good alterative, to thoſe that are able to bear the ſtrongeſt purges, and by frequent repetition, where time can be allowed for it, will often anſwer all the ends of purging better, than what is uſually done with two or three ſtrong purges, made of coarſe rank ingredients.

Take of the fineſt Succotrine Aloes, that break of a Saffron Colour, one ounce, and two drams; Myrrh in fine Powder, half an ounce; Saffron and freſh Jallap in Powder, of each a dram; make it into a ſtiff Ball, with Syrup of Damaſk Roſes, or Syrup of Marſh-Mallows; then add a ſmall ſpoonful of the rectify'd Oil of Amber, make it into a Ball, and roll it in Liquorice Powder.

This is one of the ſafeſt and beſt purges that can be given to a Horſe, and works both by Dung and Urine. Thoſe who chuſe to have it work briſkly, to fit a Horſe for preſent buſineſs, may add a dram or two more of Jallap, with about as much Ginger freſh grated, as will lye on a half crown piece, but I ſhould only adviſe this addition, in caſe the firſt does not purge ſufficiently. The Jallap works as a good ſtimulus or incentive, and fetches away

away a great deal of watry, thin, viſcid humors, that greatly clog and enfeeble a Horſe in his motions, and is very ſafe: for the ſame reaſon, it clears the Stomach and Bowels of what it finds ſuperfluous there, and by that means creates an appetite, and promotes a good digeſtion.

Cautions in Purging. I ſhall conclude what I have further to ſay on the ſubject of purging, with ſome general cautions, which I believe will be found very needful, and that is, when a Horſe purges to exceſs, not to exhibit another, till he has recovered his appetite and ſtrength, and that he has filled himſelf, and does not appear lank, which perhaps may not be, till about eight or ten days after it was given. Some Horſes after purging, eſpecially with the Plantation Aloes, do not recover their Stomachs to eat any thing for ſeveral days. In which caſe, it is neceſſary to give a warm ſtomachick draught or two, made of Chamomile Flowers, freſh Aniſeeds, and Saffron, with about half an ounce of Diaſcordium diſſolved in it. Or inſtead of that, half an ounce of Diaſcordium, diſſolved in a pint of warm Port Wine. And if notwithſtanding this, the purging ſhould continue, the ſame things may be uſed, which I have inſerted in the enſuing part of this Treatiſe, for the cure of a ſcouring and looſneſs. On the other hand, when a purge does not work, but cauſes a Horſe to ſwell, and to forſake both his food and water, which is ſometimes the effect of bad Drugs, or from catching cold, the only way to remedy that ſymptom, is by warm Diureticks, for which I can recommend the following Draught.

Take a pint of White *Liſbon* Wine, mix with it a dram of Camphor diſſolv'd in a little rectify'd Spirits of Wine; then add two drams of Oil of Juniper, and the ſame quantity of the unrectify'd Oil of Amber, with four ounces of the Syrup of Marſh-Mallows, and give it without delay. Or the following Ball:

Take Venice Turpentine, one ounce; incorporate it with the Yolk of a new laid Egg. Then take Juniper Berries, and freſh Aniſeeds pounded, of each half an ounce; Sperma Ceti, and unrectify'd Oil of Amber, of each two drams; make theſe into a Ball, with a ſufficient quantity of Syrup of Marſh-Mallows, and roll it in Liquorice Powder.

Either of theſe will make a Horſe ſtale plentifully, and at the ſame time ſet his phyſick a working, and by that means prevent ſudden death, which ſometimes happens in ſuch caſes, from not knowing how to remedy thoſe evils. But the beſt way is always to adminiſter good medicines, which will

will ſeldom be attended with ſuch miſerable effects, taking care at the ſame time that the Horſe do not catch cold, which I have known produce a ſuperpurgation, with gripes and other diſorders. It will be further adviſeable when a Horſe ſwells very much in phyſick, not to ride him till he has ſome vent, either by dung or urine; but to lead him gently in hand. For any kind of violence is extremely dangerous when a Horſe is ſo much blown up, as I have ſeen in ſome inſtances where their purges have not worked. This ſhould alſo caution us never to adminiſter ſtrong purges till a Horſe has been well prepared for them, by bleeding and an open Diet. For when a Horſe's Blood is viſcid and ſizy, and his Bowels full of crudities, ſtrong and coarſe phyſick can never fail to fill his Veſſels with wind and vapour, which may be more eaſily prevented than remedied.

The Proper Method of adminiſtring Drinks and Balls.

THO' it is in many caſes unneceſſary and ſometimes hurtful to adminiſter great quantities of medicines, as ſome perſons do, from an over-carefulneſs or over-fondneſs of their Horſes, and often when they ſtand in no great need of them; yet in ſeveral kinds of ſickneſſes we find Horſes ſo dangerouſly bad, and their diſtempers ſo malign, that they are not eaſily conquered, unleſs their Blood can be thoroughly ſated with a frequent repetition of the ſame things; which however, is not only troubleſome to thoſe concerned with them, but exceeding diſagreeable to moſt Horſes, who hate to have medicines continually crammed down their throats. Indeed ſome Horſes are more pliable in this reſpect than others, and will take Drinks and Balls with very little trouble, and I have ſeen ſeveral Horſes learn to eat the pectoral Horſeballs with as much pleaſure as their common food; but the far greater number have a natural reluctancy to all ſuch things.

Horſes drinks to be made ſomewhat palatable.

I have frequently obſerved, that moſt Horſes have naturally a ſweet Tooth, and take things more willingly that are ſweet and palatable than things that are bitter and of an ill Taſte, and therefore their medicines, but eſpecially their drinks, ſhould always be ſo contrived as to be as little as poſſible diſagreeable and nauſeous; becauſe this always makes Horſes recoil and reſiſt all kinds of medicines. But the beſt way to remedy this evil, is to make up thoſe things into balls that are extremely bitter and nauſeous, and waſh them down with ſome proper drink, ſweetened with Honey or Liquorice. This Method I have always found the moſt ſucceſsful to keep

Horſes

Horſes in a right humour for taking what medicines were neceſſary for them.

Horſeballs not to be too large.

ALL the balls that are adminiſtered to Horſes, ſhould be made into an oval ſhape when they are given, and not exceed the ſize of a pullet's egg, and when the doſe happens to be large, they may be made into two. They ſhould be dipped in Oil, that they ſlip down with the more eaſe; for ſtriving much in thruſting down balls greatly increaſes a Horſe's antipathy to ſuch things, and renders it troubleſome to adminiſter medicines to them.

SOME men by frequent uſe grow ſo dexterous in giving balls, that they ſeldom miſcarry, and without fatiguing the Horſe. Theſe are ſuch as generally begin young, while their Hands are ſmall, and bring that operation into an eaſy habit. But ſome Horſes have been ſo much tired with awkward unhandy perſons, that they come to reſiſt every thing that is offered to them in that manner; others are ſo untractable, and ſo ſhy of being handled about the mouth, that there is ſcarce any poſſibility of giving them balls without an inſtrument of iron to hold their Mouths open. And therefore this ſhould always be part of a ſtable furniture, where any number of Horſes are kept. Every ſtable ſhould alſo be provided with a drenching horn; it being neceſſary to have theſe inſtruments always in readineſs in caſe of accidents. The beſt drench horns are thoſe that are ſmall and narrow in the mouth, and ſhaped like a ſpoon, wide in the belly, and ſufficient to contain half a pint, more being unneceſſary for one go down, for too large draughts are apt to ſtrangle Horſes, and ſets them into violent fits of coughing, eſpecially when they are ſhort breathed and oppreſſed with violent colds or ſickneſs.

IN drenching Horſes it is uſual to draw up their Heads pretty high, with a cord faſtened round the Upper-Jaw, holding up the Horſe's Head in that poſture till the drink has run down into his ſtomach, otherwiſe it is apt with his champing, to return back and run out of his mouth, eſpecially when the taſte is any ways diſagreeable to him. But when a Horſe is plethorick and full of Blood, when his Lungs are inflamed, his Breath ſhort, as frequently happens in very great colds and fevers, it then becomes troubleſome to adminiſter drinks to him, and the fatigue it gives him at ſuch times makes it alſo dangerous, and I have ſeen a great deal of hurt done by forcing down things injudiciouſly beyond a Horſe's ability to receive them. And therefore when Horſes are greatly oppreſſed with violent colds, malignant fevers, peripneumonies, or any other oppreſſive ſickneſs that affects the Lungs and Offices of Reſpiration, ſpecial care ſhould be taken

taken in adminiſtring their medicines, eſpecially thoſe that are liquid and given with the horn. The beſt way to do this effectually and without hazard, is in the firſt place, to contrive their drinks ſo as they may paſs down with the leaſt trouble and labour, and I have always found thoſe the moſt agreeable and the leaſt fatiguing to Horſes, that are made by infuſion without the mixture of groſs powders, which tho' they are uſual with moſt practitioners, yet are apt to clam a Horſe's Mouth, tickle the ſenſible Membranes about his palate and throat, and ſet him a ſtraining violently to cough, while his Lungs are ſtuffed and full, and without any free and kindly diſcharge from the Glands; which often increaſes their maladies to ſuch a degree, as fruſtrates all the ends for which theſe are given. Therefore their drinks ſhould not only be as free as poſſible from ſuch things as may ſet them a ſtraining violently to cough, while their Lungs are ſore, but ought to be made ſmooth with mucilaginous and balſamick ingredients, and ſometimes, when the caſe requires it, with oils and unctuous medicines joined with proper deterſives, of which ſufficient examples will be given hereafter, under each particular malady, where drenches are neceſſarily to be adminiſtered.

Groſs powders improper in drinks.

I ſhall here mention other cautions that ought to be obſerved in drenching Horſes, to ſave the trouble of needleſs repetitions when I come to treat of the diſeaſes that require any particular management in ſuch things, which ſhall be referred to as often as may be neceſſary in the more difficult caſes.

When a Horſe happens to be drenched only for a ſlight cold, or other ſlight diſorder, there needs no great ceremony in the way and manner of doing it, only that the Horſe be kept faſting ſome time before and after. That the ingredients be good of their kind, and ſuited to the diſtemper. That he have warm maſhes, that he be kept dry, and no ways expoſed to increaſe his cold. But when a Horſe is inwardly ſore or very much oppreſſed with ſickneſs, notwithſtanding bleeding and other evacuations have been made, and cannot be moved wi hout great pain and labour; in ſuch circumſtances we can never uſe him with ſufficient tenderneſs; he ought to be turned about very carefully, and ſtand a few minutes to reſt before his Head is raiſed up for his drink, and ſhould only have one or two hornfuls at a time, and then to let his head down for about five minutes, or longer, that he may recover his breath before his Head is drawn up for the ſecond draught, and ſo alſo for the remainder. After the laſt of his drink, he ſhould be let ſtand at leaſt ten minutes before he is ſet forward to his rack, and then ſhould not be turned about ſhort in his ſtall, as a Horſe that is

Cautions in adminiſtring drenches to ſick Horſes.

well or but ſlightly indiſpoſed, but ſhould be carefully put back, and turned in the ſtable or in the yard, where he may have ſufficient room to fetch a compaſs, that he may not be any ways put in pain, or otherwiſe endangered by a ſudden twiſting of his Body. This method I have always followed with good ſucceſs, in drenching Horſes under the worſt kind of maladies, and have cauſed them to have ſeveral draughts given them in a day, without the leaſt inconveniency, when their diſtempers required them to be often repeated, and have had them frequently fed with a horn in the ſame manner, until they have recovered ſo much ſtrength and appetite as to feed themſelves.

Concerning Glysters and the Manner of giving them.

Glyſters are often neceſſary for Horſes in various diſorders, and may be reduced to theſe different kinds, *viz.* laxative and emollient, purgative and reſtringent.

Emollient Glyſters are thoſe made of the decoctions of the emollient Herbs, as of Mallows, Marſh-Mallows, the herb Mercury, Pellitory, Chamomile Flowers, and ſuch like, which relax the Guts, and ſoften the Excrements when they are hard and dry; and when to theſe are added an ounce of ſweet Fennel Seed, or of Bay Berries bruiſed, they make the Glyſter Decoction; and to make it laxative, oil and treacle, or courſe ſugar, may be diſſolved in the ſtrained decoction, while it is warm, and it will open a Horſe's Belly, and give him eaſe, by diſcharging the excrements and other contents of his Bowels without pain or griping.

Purging Glyſters are compounded of the ſame purging ingredients, of which the various kinds of purges are made, added to the decoctions of the emollient ingredients, or for want of theſe, to two or three quarts of fat broth. The propereſt purgatives for Glyſters, are *Sena Colloquintida*, or Bitter Apple, Jallap, Lenitive Electuary, *Carrocoſtinum*, or Syrup of Buckthorn, with a handful of common Salt for a ſtimulus, when a ſpeedy and immediate diſcharge is required.

Restringent Glyſters are intended to ſtop violent looſneſſes; they are ſeldom uſed, or indeed but little underſtood by the Practitioners in Farriery, but I have found them often efficacious, when no internals by the Mouth would avail, ſuch as decoctions of Oak Bark, Pomegranate Bark, Balauſtines, Red Roſes, Dyers Galls, and ſuch like, with *Diaſcordium Mithridate*, or *Venice Treacle* diſſolved in them; and to theſe may be added a fourth kind,

kind, which may be termed nutrative, and are of great benefit in ſome convulſive caſes, where the Jaws are ſet ſo cloſe, that nothing can be tranſmitted into the Stomach, or where the paſſages of the Throat and Gullet are ſwell'd and inflam'd, which ſometimes is ſo violent, that a Horſe is in danger of being ſtarved or ſtrangled, unleſs nouriſhment can be convey'd ſome other way than by the Mouth. But I ſhall only here inſert one ſingle Form of each kind, becauſe the proper uſe of Glyſters will be more particularly ſhewn, when I come to treat of the ſeveral maladies that require ſuch helps.

An Emollient or Laxative Glyſter.

Take Mallows, Marſh-Mallows, Pellitory the Herb, Mercury, and Chamomile, or ſuch of them as can be got, of each a large handful; Bay Berries, and Sweet Fennel Seeds bruiſed, of each an ounce; boil in a gallon of Water to three quarts, pour off the decoction into a Pan, and diſſolve in it half a pound of Treacle, and a pint of Linſeed Oil; to make it laxative, add four ounces of Lenitive Electuary, or the ſame quantity of Cream of Tartar, or common purging Salts.

A Purging Glyſter.

Take two or three handfuls of the Emollient Herbs, as directed in the preceeding; Sena, an ounce; Bitter Apple, half an ounce; Bay Berries, and Aniſeeds bruiſed, of each an handful; Salt of Tartar, half an ounce; let theſe be boil'd a quarter of an hour in three quarts of Water, then pour off the decoction, and while it is warm, add four ounces of Syrup of Buckthorn, and half a pint of Linſeed Oil.

This will purge a Horſe pretty briſkly, and may be given with good ſucceſs, when an immediate diſcharge is wanting, eſpecially in ſome ſymptomatick Fevers, in inflammations and ſoreneſs of the Lungs, and other diſorders, which require ſpeedy relief.

A Reſtringent Glyſter to ſtop a Superpurgation, or any other kind of Looſneſs.

Take Pomegranate Bark, or Oak Bark, of either of theſe two ounces; Red Roſe Leaves green or dry, a handful; Balauſtines, *viz.* the Flowers of the Wild Pomegranate, half an ounce; boil in two quarts of Water, till one is near conſumed; pour it off from the ingredients, and diſſolve in the decoction four ounces of Diaſcordium.

This will anſwer in all common caſes where reſtringents are neceſſary; what other helps are wanting, will be ſhewn when I come to treat of a Lax and Scouring.

Nutritive Glyſters, or the conveying food by a pipe into the Fundament, may conſiſt of Broths made of Sheeps Heads, Sheeps Trotters, or any other kind of meat that is not too fat, Milk Potage, or Rice Milk ſtrain'd, or any other thing, whereby a Horſe may receive nouriſhment in any great extremity, when nothing can be convey'd by the Mouth. Theſe are ſometimes very neceſſary, and preſerve Horſes from ſtarving; but ought not to conſiſt of any thing that is too fat and looſening, otherwiſe they may eaſily fruſtrate the end for which they are given. They ſhould alſo be but ſmall in quantity, not exceeding a quart, or three pints at a time, but ſhould be often repeated.

The like caution is no leſs neceſſary in adminiſtring reſtringent Glyſters, which ought to be but ſmall in quantity, and have nothing in their compoſition that is unctuous or oily, for that would alſo defeat the end for which they are given, and the longer they lye in the Bowels before they come away, the more efficacious they always prove in ſtopping looſneſſes; and I have often known Horſes retain them twenty-four Hours without voiding any thing, and when they have dung'd, it has come away natural and of a good conſiſtence.

Cautions in adminiſtring Glyſters.

In regard of laxative and purging Glyſters, there is no need of any great reſtriction as to the quantity, which may be given to two or three quarts in ſome caſes, where the Balls of Dung are black, and hardened in the Purſes of the Colon. But I would adviſe the Practitioner, never to be over liberal of his purging ingredients, even in thoſe caſes wherein purging is intended, eſpecially with ſollutions of coarſe Aloes, which I have obſerved to work and gripe Horſes to a very great degree, even ſo as to excite feveriſh, and ſometimes convulſive ſymptoms, and by that means, have added ſtrength to the diſtemper, which they were intended to abate; and I have often remark'd, the quantity of the purgatives given in Horſes Glyſters, ſhould not be ſo large in proportion as thoſe given to Men, becauſe of the horizontal poſition of their Bodies, which makes them ſuddenly draw up into the ſmall Guts, where they ſometimes cauſe a moſt violent irritation, and it is difficult to manage Horſes, when any untowardly ſymptoms are cauſed thereby, and therefore it is always the ſafeſt way with Horſes, to increaſe the quantity of Oils, and other laxatives, even where purging is neceſſary, rather than make too bold with medicines that are very pungent and ſtimulating, as all the ſtronger purgatives generally are; beſides, that the poſition of a Horſe's

Guts

Guts diſpoſes them to breed ſlime and viſcid matter, in almoſt all their diſorders, which is in moſt caſes more ſafely looſened and brought away by emollients, and laxatives, than by things that are more purgative, of which I have had frequent experience.

Horſes to be rak'd before their Glyſters.

It ought to be a general rule in adminiſtring Glyſters of all kinds, that the Horſe ſhould firſt be rak'd by a perſon that has a ſmall Hand, to fetch out the Dung that lyes in the ſtreight Gut. The Hand ſhould be oil'd, that it may paſs into the Fundament the more eaſily, without hurting the Horſe, which will diſpoſe him to receive the Pipe the more willingly. The Glyſter ſhould be but milk warm, for if it is more than that, it will be apt to ſcald, and make him throw it out immediately without any effect. The Farrier or Groom, ſhould be provided with a Pipe made of Box *Lignum Vitæ*, or any other wood that turns ſmooth and with a poliſh. It ſhould at leaſt be fourteen inches long, an inch thick at the noſle, and an inch and a half at the other end where the bag is faſtned, and the mouth turn'd into a ſmooth oval with little holes, in the ſame faſhion with thoſe uſed by the Apothecaries, theſe being preferable to any kind of ſyringe, not only becauſe the ſyringe pipes are generally both too ſmall, and too ſhort, but becauſe the ſyringe throws in the Glyſter with ſo much force, that it ſurpriſes a Horſe, and makes him fling it out as faſt as it goes in; whereas when a pipe of a convenient ſize and length is made uſe of, the liquor of the Glyſter being preſſed gently from the bag, gives him no ſurprize or uneaſineſs, ſo that there is ſeldom need of doing any more in this operation, than to hold his Tail down a minute or two with ones hand, after which he will retain it till he has motions to dung; and ſometimes Horſes will dung two or three times with mild Glyſters rightly given, before they throw them intirely out. And ſome will remain a long time in the Body, eſpecially thoſe of the emollient kind, and do great ſervice by cooling and relaxing the Bowels, and incorporate ſo with the Dung, that they cannot eaſily be diſtinguiſhed from the other contents of the Guts.

The Size and Form of the Pipe.

A Pipe and Bag preferable to a Syringe.

PART III.

Of the Diſeaſes of Horſes and their Cure.

CHAP. I.

Of the Diſeaſes of the Head.

IN treating the diſeaſes of the Head, we are to diſtinguiſh between thoſe that are peculiar to the Head alone, and thoſe that are only the concomitants of ſome other diſeaſe, which frequently affect the Head in as ſenſible a manner as the other, tho' not always ſo dangerous in their conſequences.

I ſhall paſs over the enumeration made in books of Farriery, and their conceits concerning the diſeaſes of the Head, which are generally full of blunders and miſtakes, and confine myſelf altogether to what I have found from experience in various inſtances; wherein I may poſſibly give ſome ſatisfaction to thoſe who have had any competent knowledge of Horſes, and have been inquiſitive to find out their diſtempers.

OUR Farriers generally include all diſtempers of the Head under two denominations, *viz.* the STAGGERS and CONVULSIONS, which indeed are ſuch as affect the Head, but in Horſes, for the moſt part, ariſe from parts ſituated at a great diſtance from it. But theſe are general and imperfect terms, which few or none of our practitioners rightly underſtand, and therefore we cannot expect they ſhould often ſucceed in ſuch difficult caſes.

Whence the diſeaſes of the Head proceed.

THE diſeaſes of the Head are properly ſuch as have their origin and immediate cauſe from the Head, of which kind are all thoſe that proceed from extravaſated matter diſcharged out of the Veins, Arteries, or Lymphæducts, either upon the Membranes that invelope and cover the Brain, or into its Sinus's or Ventricles, whether this be the effect of wounds or concuſſions, or proceed from any other cauſe whereby the veſſels of the Brain may be ruptured and broke. Sometimes the Membranes themſelves are indurated

indurated and grow preternaturally hard, and diſtended by long continued obſtructions, ſo as to preſs upon the tender ſubſtance of the Brain or *Cerebellum*; but this may alſo be owing to ſome previous accident or diſtemper, and in ſome old animals theſe Membranes have been found oſſify'd and turned bony, all which things muſt cauſe great diſorders in the Head. Sometimes theſe diſorders proceed from a faulty Blood, when it happens to be viſcid and ſluggiſh, or when it is of unequal mixture, ſo as to abound with particles too groſs to go along in the courſe of circulation, but are apt to ſtagnate in the *Plexus Choroides*, and other ſmall veſſels of the Brain, ſo as to preſs upon the origin of the Nerves.

But laſtly, diſorders of the Head are many times owing to a plethora, *viz.* an over great quantity of Blood, which is often the caſe of Horſes that are fed high, and have neither had ſufficient exerciſe nor other proper means uſed to preſerve their Blood and Juices in a due temperament. From theſe and ſuch like cauſes proceed moſt of the diſtempers peculiar to the Head, ſuch as *Apoplexies*, *Vertigoes*, *Lethargies*, *Epilepſies*, *paralitick* diſorders, and all others where the Nerves are affected ſo as to produce ſymptoms that impede ſenſe and motion, which I ſhall take in their order, and afterwards proceeds to thoſe diſorders of the Head that ariſe from the Diſtemperature of other parts, of which I ſhall produce ſeveral inſtances from practice, as the readieſt way to give a true notion of thoſe diſtempers in Horſes, which uſually go under the name of Staggers and Convulſions.

Of an Apoplexy.

In an Apoplexy a Horſe drops down ſuddenly without ſenſe or motion, only a working at his Flanks, proceeding from the motion of the Heart and Lungs, which never ceaſes while any ſpark of life remains.

The previous ſymptoms are drowſineſs, watry moiſt Eyes, ſomewhat full and inflamed, a diſpoſition to reel, feebleneſs, a bad appetite, and almoſt a continual hanging of the Head, or reſting it in his manger, ſometimes with little or no fever, and ſcarce any alteration in the dung or urine. When the Apoplexy proceeds from water collected in the Sinuſes and Ventricles of the Brain, the Horſe has generally beſides all theſe foregoing ſymptoms a diſpoſition to rear up, and is apt to fall back when any one goes to handle him about his Head. The reaſon of his falling backwards ſeems to be obvious, becauſe when the Head is raiſed with his mouth upwards, the water in the Ventricles cauſes a weight and preſſure upon the *Cerebellum* The ſigns of an Apoplexy.

Cerebellum and origin of the Nerves, ſo as may deprive a Horſe of ſenſe and motion at once; this is a caſe I have often ſeen, but does not prove ſuddenly mortal. Young Horſes are moſt ſubject to it, and, with proper helps and good uſage, ſometimes get over it. But when the Apoplexy proceeds from wounds or blows on the Head, or from any other cauſe producing ruptures in the Blood-Veſſels, or from matter collected in the Brain or its Membranes; or if any part of the Brain or its Membranes be indurated and grown callous by long continuance, we ſhall not only ſee moſt of the ſymptoms already deſcribed, but the Horſe will be frantick by fits, eſpecially after his feeds, ſo as to ſtart and fly into motion at every thing that comes near him. Theſe caſes are extreme dangerous, and ſeldom admit of a perfect recovery. But when Horſes fall down ſuddenly and work vio'ently at their Flanks, without any ability to riſe even after plentiful bleeding, ſuch Horſes ſeldom recover.

The Cure. ALL that can be done in ſuch caſes is to ſtrike the Veins in ſeveral parts at once, to raiſe up the Horſe's Head and Shoulders, proping them with plenty of Straw, and if he ſurvive the fit, to cut ſeveral Rowels; tho' in caſe of ruptured Veſſels, or if any kind of extraneous matter be lodged on the Brain or its Membranes, all theſe helps will be of little ſervice.

BUT if the Apoplectick Fit happens to be only the effect of a Plethora or fulneſs of Blood, from high feeding and want of ſufficient exerciſe, or if it be the effect of a ſizy Blood, which is often the caſe of many young Horſes that have been fed for ſale, or from catching cold while the Blood is in this ſtate; tho' a Horſe in theſe circumſtances may reel and ſtagger, and ſometimes fall down ſuddenly, yet the cure will admit of no great difficulty.

FIRST of all bleed plentifully, and keep the Horſe for ſome time to an opening diet of ſcalded bran, and ſometimes ſcalded barley, leſſening the quantity of his hay. After two days repeat the bleeding, but in a ſmaller meaſure. If the Horſe has a cold it will be proper to give him pectoral drinks, ſuch as are preſcribed for colds, but if no ſymptoms of a cold appear, it will be neceſſary, after bleeding and a ſpare diet, to give him two or three Aloetick Purges, not only to remove the Plethora and fulneſs, but to attenuate and thin his Blood, for which I would recommend the following.

Take of the fineſt Succotrine Aloes, an ounce and a quarter; freſh Jallap, two drams; Salt of Tartar, three drams; Native Cinabar, or the Cinabar of Antimony, half an ounce; make it into a ball, with a

ſufficient quantity of Syrup of Roſes or Marſh-Mallows; adding 20 or 30 drops of Chymical Oil of Aniſeeds; and make it into a ball, rolling it in Liquorice Powder, to be given with the uſual precautions.

The purge may be made ſtronger or weaker by adding or diminiſhing the Jallap. Let this be repeated two or three times, and the Horſe will probably recover without a relapſe. Powder of Antimony or its preparations, as the Liver, or *Crocus Metallorum*, or its Cinabar, or the Native Cinabar mixed with equal parts of Gum Guiacum, may be alſo given in ounce doſes, for three or four weeks to mend his Blood and take off its ſizineſs; and exerciſe, which ought not to be omitted as ſoon as the Horſe is able to bear it.

When a Horſe drops down ſuddenly with hard riding, or violent driving; this is a caſe that in many reſpects reſembles an Apoplexy, and all the organs of the Head are affected as in an Apoplexy; but as this proceeds only from the extraordinary rarefaction of the Blood, and its rapid motion, whereby the ſmall veſſels of the Brain, Heart and Lungs, are extremely diſtended, ſo as to cauſe an univerſal preſſure on the Origins of the Nerves, that riſe from the *Cerebellum*, and *Medulla Oblongata*; the Horſe by this means looſes all ſenſe and motion, and generally falls ſuddenly, eſpecially upon any ſudden ſtop, becauſe when the bodily motion ceaſes, the circulation of the Blood in the Veins is not accelerated in proportion to its influx from the Arteries, which ſoon produces a ſuffocation, and a falling down without ſenſe or motion. Inſtances of this kind are not uncommon, eſpecially in very hot weather, when the external heat adds greatly to the Blood's motion and rarefaction. But as we ſuppoſe, in this caſe, little or no fault in the Blood, but perhaps a *Plethora*, or weakneſs in the Veſſels, the quickeſt and readieſt remedy is bleeding plentifully; and unleſs the Horſe die with the violence of the fall, which ſometimes happens, or by burſting the ſmall Veſſels of the Brain or Lungs, or happens to have Polipuſes in the Heart, or principal Veins, he will ſoon riſe of himſelf, or without much help, and may be preſerved from ſuch accidents in time to come, with better uſage. But when ſuch ſudden diſorders proceed from defects in the Blood and Nerves, the Horſe may be treated as in other diſorders of the Head.

Of the Lethargy, or Sleeping Evil.

SOMETIMES Horſes are ſeiz'd with ſleepineſs in very great colds, eſpecially thoſe colds that have ſome degree of malignity in them; but this ſymptom generally wears off as the diſtemper abates. But a true Lethargy ſeldom happens, unleſs to Horſes that are old, or growing old, and to ſuch eſpecially, that have been work'd beyond their ſtrength and keeping. I have known many Horſes ſeiz'd with lethargick diſorders after very hard labour, when there has not been ſufficient time allowed for food and reſt, by which nature has receiv'd ſuch a ſhock, that ſome have dy'd, notwithſtanding all manner of proper applications have been made to recover them. Others have recovered with much pains and labour, and ſome of thoſe that have recovered, were not afterwards able to go through any very great fatigue.

What Horſes are the moſt ſubject to Lethargies.

WHEN a Horſe falls into a Lethargy, or grows lethargick, he generally reſts his Head with his Mouth in the manger, and his Pole often reclined to one ſide, which denotes a very great weight, ſtupor, and inſenſibility. As there is ſeldom any great pain, or inward ſickneſs, he will ſhew an inclination to eat, but for the moſt part falls aſleep with his Hay, Bran, Oats, or whatever elſe is given him in his Mouth, and ſeldom chews but ſwallows it down, but when he is jog'd and rous'd, and unleſs when his Head is kept moving, he preſently drops into ſleep again; and if a Horſe continues any time in this ſtate, he falls into an atrophy, and univerſal decay, eſpecially if his Lungs, Liver, or any other of his principal *Viſcera* be faulty, or if he has received any hurt in his Head.

The Signs of a Lethargy.

A Lethargy in a Horſe may be cured, if he is not very old and paſt his vigor. It is always a good ſign if a Horſe has a tolerable appetite, and in ſome meaſure retains his Smell and Taſte, ſo far as to eat up a maſh with a good guſt, and without doſing over it, tho' he eats but little hay, and at the ſame time drinks pretty freely without ſlabbering, and if he lyes down and riſes up carefully, tho' it be but ſeldom. But if a lethargick Horſe does not lye down, if he is altogether ſtupid and careleſs, and never takes notice of any thing that comes near him; if he dungs and ſtales ſeldom, and even while he ſleeps and doſes, it it always a bad ſign. If he runs at the Noſe a thick white matter, it may relieve him, but if a viſcid gleet that ſticks to his Noſtrils like glue, and if this increaſes, and turns to a profuſe running of ropy, rediſh or greeniſh matter, with an increaſe of his Lethargy, it is an infallible

The good and bad Signs diſtinguiſhed.

infallible ſign of a great decay of nature, and as the name of this diſtemper imports, will prove deadly.

As to the cure, if the Horſe be young, and has fallen into this diſtemper, either upon catching cold in ſome damp place, or has ſuffered from any hard uſage, there may be great hopes of his recovery, becauſe the diſeaſe in this caſe, is in ſome meaſure ſymptomatical, and the right way is to begin with bleeding, but not in too great quantity, for lethargick Horſes are ſeldom able to bear the loſs of Blood, unleſs they be young and luſty. After bleeding give the following drink, which conſiſts both of pectorals and cephalicks, for in ſome lethargick diſorders, the Lungs are much affected, to which regard muſt be had in all the applications that are made. The Cure.

Take Pennyroyal, Coltsfoot, and Chamomile Flowers, of each a handful; Rue, and Hyſſop, of each half a handful; Liquorice Root ſliced, an ounce; infuſe in two quarts of boiling Water, in a deep pan cloſe covered, and when it has ſtood to be cold, pour it off into another veſſel.

At the ſame time make the following Tincture.

Take Aſſa Fœtida, and the beſt Ruſſia Caſtor, of each half an ounce; Saffron one dram; cut the Aſſa Fœtida and Caſtor into bits, and ſhred the Saffron, then tye them in a Rag, and let them ſteep all night in a pint of ſtrong Mountain Wine, or in the ſame quantity of Spirit of Wine and Water, about three parts Water to one of the Spirits.

In the morning give a pint of the firſt infuſion, with a quarter of a pint of this tincture. The ſame quantity in the afternoon, and ſo the days following, ſqueezing the rag with the *Caſtor* and *Aſſa Fœtida*, in each doſe leaving it always to ſoak in the tincture, till there is occaſion to uſe it again, and that no taſte or colour remains in it. The firſt three or four days let the Horſe have Glyſters, for in all ſtupifying diſtempers, Horſes are apt to be coſtive. Emollient Glyſters are the beſt, made of fat Broth, or a few Mallows, and Marſh-Mallows, boil'd in Water or Milk, which is better, with an ounce of ſweet Fennel Seeds, adding half a pint of Linſeed Oil, and the ſame quantity of common Treacle, to three pints or two quarts of the Decoction.

After theſe things have been comply'd with, and that the ſleepineſs wears off, and the Horſe begins to move with ſpirit and vigor, give him

one of the following balls every morning faſting, for a fortnight or three weeks.

Take Cinabar of Antimony, or Native Cinabar and Aſſa Fœtida, of each half an ounce; powder of Caſtor, two drams; beat this maſs into a ball with a ſufficient quantity of Oil of Amber.

After the uſe of theſe things, that the Horſe comes to feed heartily, two or three mild purges may be proper, juſt ſuch as will thoroughly open his Body, and help to attenuate his Blood, as the following.

Take Diapente, half an ounce; Succotrine Aloes, one ounce; Cinabar of Antimony, and Salt of Tartar, of each two drams; make it into a ball with Syrup of Damaſk Roſes, adding thirty drops of chymical Oil of Aniſeeds, or a ſpoonful of Oil of Amber.

This may be given with the uſual precautions. It will work partly by Dung and partly by Urine, *&c.* and with little or no griping, and render the cure more perfect.

It is uſual in lethargick diſtempers, and all other diſorders of the Head, to open the Skin of the Forehead, and to put a piece of ſome bulbous root into the orrifice, and to cut ſeveral other iſſues in the Neck, the Breaſt, the Belly, and the Thighs, but theſe are often hurtful in Lethargies, eſpecially when the diſtemper is attended with decay and weakneſs; and I am the more convinced of this, becauſe I have ſeveral times cured Lethargies in Horſes that were not very old, without any rowels or other iſſues, by the method above preſcrib'd, and inſtead of large evacuations, or allowing any thing to leſſen the quantity of the Blood, have indulged them in pretty liberal feeding, divided in ſmall portions, and exhibited at proper intervals.

Of the Epilepsy.

The Epilepſy deſcrib'd.

The Epilepſy, is that diſtemper which in the human Body goes more peculiarly under the name of Convulſions. It ſometimes ſiezes periodically, but often at uncertain times, and for the moſt part ſuddenly, with little or no previous ſymptoms, tho' in Man there is generally preceding the fit, exceſſive pain in the Head, drowſineſs, ſtupidity, loſs of memory, *&c.* which cannot be ſo clearly diſtinguiſhed in the brute creatures.

The

The common people call this diſtemper the falling ſickneſs, or falling evil, when it ſiezes ſuddenly and univerſally, that the perſon falls down in the fit, but is called a particular convulſion, when a part or member of the Body only is affected. But it ought to be conſidered, that particular convulſions, do not always proceed originally from the Head, but from pain and weakneſs in ſome member, by which the Muſcular Fibres are either contracted or become immoveable.

The Cauſes from whence Epileptick Diſorders proceed, eſpecially in Horſes.

When the Convulſion is univerſal, it generally proceeds from all the ſame cauſes that produce Vertigoes, Apoplexies, and Lethargies, to all which it has a near affinity; and in Horſes, I am apt to think epileptick diſorders are often owing to blows on the Head, or hard ſtraining, eſpecially when the Horſe has not been hardened and prepared for labour, either of which may hurt the Brain, or its Membranes. And ſometimes Epilepſies proceed from a *Plethora*, or fulneſs of Blood, when it is groſs and fizy, which however, is not ſo dangerous as the Convulſions that ariſe from the above recited cauſes. But when Convulſions happen to old Horſes, they generally prove incurable, becauſe nature being languid, gives but little aſſiſtance to the operation of medicines, or any other helps made uſe of for their recovery.

I have ſeen Horſes ſiezed with epileptick diſorders, but were miſtaken by the Farriers for the gripes; and it is no wonder, that perſons ſo meanly educated as they generally are, make ſuch miſtakes, in regard Horſes are often convuls'd in the gripes when the pain is violent, eſpecially in that ſort they call the twiſting of the Guts, which is not what people generally imagine it to be, but an inflammation of the Guts, which ſometimes ends in mortification, and then the Convulſions are only ſymptomatical, and tho' they are often violent, yet affect a Horſe in a different manner from thoſe of the epileptick kind.

How Epileptick Diſorders are diſtinguiſhed from the Gripes in Horſes.

In all kinds of Gripes, whether they proceed from diſorders of the Guts, or retention of the Urine, a Horſe is often up and down, rolls and tumbles, and when he goes to lye down, generally makes ſeveral motions, with great ſeeming carefulneſs, which ſhews the ſenſe he has of his pain, and if he lyes ſtretched out at any time, it is generally but for a ſhort ſpace. But in the Epilepſy, the Horſe reels and ſtaggers, his Eyes fixed in his Head, has no ſenſe of what he is doing, ſtales and dungs inſenſibly, runs round, and falls ſuddenly, ſometimes immoveable with his Legs, ſtretched out as if he was dead, except only a very quick motion of his Heart and Lungs, which makes him work violently at his Flanks, ſometimes an involuntary motion, and ſhaking of his Limbs, which I have ſeen ſo violent in a Horſe, that he has beat and ſpurn'd his litter, and the pavement along with it. And I have known

known Horſes continue in this manner agitated, and ſometimes motionleſs, for the ſpace of three hours and upwards, when every body has looked upon them to be dying, and have been ſtrangely ſurpriſed at their recovery. At the going off of the fit the Horſe generally foams at his mouth, and the foam white and dry, like that which comes from a healthful Horſe when he champs upon his bit.

'Two very extraordinary caſes of epileptick Horſes.

Two very extraordinary Caſes of this kind happened to me ſome years ago. One of them was in the guards, the other in the Horſe Grenadiers. The firſt juſt as he was mounted to go into the park for exerciſe, all of a ſudden reared up and fell backwards, upon his rider, whom he bruiſed miſerably, by his great weight and the deadneſs of his fall. The Horſe lay a conſiderable time, and all the while beat the pavement ſo inceſſantly that it was dangerous for any one to come near him, otherwiſe than to thruſt ſome litter under him with the handle of a fork. His Eyes were ſet in his Head and drawn upwards, and foamed at his mouth, heaving and breathing very hard all the time. He recovered this fit without any other apparent diſorder than a ſtiffneſs and wearineſs with the violent agitation he was in during the paroxiſm, like what happens to ſome tired Horſes after a long journey, and in a few days he ſeemed to be perfectly well and freed from all diſorder; but in about a month afterwards he relapſed, and fell into a more violent and laſting fit, in the ſtable, while he was eating a feed of oats; he lay in this fit many hours, for the moſt part motionleſs, with his Limbs ſtretched out and foaming at his mouth, but at laſt, when upon the decline of the fit, he was given over for dead, he all of a ſudden gathered up his Legs, raiſed his Head, as if he had only been aſleep, and after looking about him a little while, got up without any great difficulty, and in a few days, with the help of ſome Cephalick medicines, he recovered his appetite and the perfect uſe of his Limbs.

The Grenadier Horſe was ſent from guard, and being got home with much difficulty after bleeding, fell down before he could be got into his ſtall, and lay acroſs the ſtable on a bed of litter many hours before the fit left him.

The Cure.

The method made uſe of for the recovery of both theſe Horſes was as follows. Firſt of all they were bled pretty plentifully, tho' if either of them had been low in fleſh, or had come off any hard continued duty, or had been very old, I ſhould have been ſomewhat ſparing of their Blood. As it was impoſſible to adminiſter any thing to them during the paroxiſm or fit, I only took care to have them kept in a right poſture, that they might neither hurt themſelves nor thoſe that looked after them. When

the fit was over, the following ball was administered with a proper drink to wash it down, *viz.*

Assa Fœtida, half an ounce; Russia Castor, pounded, two drams; Venice Turpentine, the same quantity; Diapente, an ounce; made into a ball with Honey and Oil of Amber.

The Drink was made thus, *viz.*

Penny Royal and Misletoe, of each a large handful, Valerian Root, an ounce; Liquorice, half an ounce; Saffron, two drams; infused in a quart of boiling Water, and standing about two hours on the ingredients, it was poured off and administered after the ball.

This was repeated sometimes once, sometimes twice a day, at first, and afterwards once in two or three days. The Grenadier Horse was perfectly well in less than a week, and had no return. The other continued to take balls longer, with this alteration, *viz.*

Cinabar of Antimony, six drams; Assa Fœtida, half an ounce; Aristolochia, Myrrh, and Bay-berries, of each two drams; made into a ball with common Treacle, a sufficient quantity, and about a spoonful of rectify'd Oil of Amber.

Instead of the drenches a large handful of Misletoe boiled in three pints of spring water, was mixed in a pail with his common drink, which he drank without any reluctancy, the Misletoe having little or no taste or smell; and as to its virtue in convulsive cases the learned reader may consult *Riverius*, Sir *John Colbatch*, and many others. This was continued about three weeks, mixed with the Horse's water, after the Cephalick balls and other Medicines were left off, and in the mean while were given laxative Purges and Glysters, at proper intervals, to keep his body open and prevent a relapse. The Glysters may be made with Chamomile Flowers and Misletoe, with Oil and Treacle added to the decoction. The Purges are made of the same decoction, by dissolving four ounces of Lenitive Electuary, and the same quantity of *Cremor Tartari*, or *Sal Mirabile*.

Another extraordinary case.

Another Grenadier Horse was soon after seized with convulsions that were not so violent as either of the two already recited, but of a more complicated kind and more obstinate. The convulsions pulled his Eyes continually upwards, that nothing could be seen but the whites, sometimes

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for near two hours, the paroxiſm or fit uſually laſting ſo long in the beginning. When the fit was, over the Horſe would eat ſcalded bran and hay, what was ſufficient to ſuſtain him, and drank gruel plentifully. He reeled and ſtaggered very much, but never fell down. He was treated in the ſame manner as the others, and in his drinks Aſſa Fœtida and Caſtor tied up in a rag, lay always in the infuſion, and was ſqueezed in every draught. At firſt his drinks were repeated twice a day with balls, and afterwards once a day, for ſome time, and once every other day or ſeldomer as the diſtemper declined. Two men were employed continually in rubbing his Head and Neck, Cheeks and Temples, to keep his mouth free, which was often locked up for ſeveral minutes, and would probably have continued ſo, if this method had not been made uſe of to prevent his being jaw-ſet. Other parts of his body were alſo rubbed where any cramp or convulſive ſymptom appeared, which, with the help of his medicines, brought him into a continual breathing ſweat, which laſted near three weeks. His cloaths were often changed and dryed, and the effect of the Caſtor was particularly remarkable in promoting the Diaphoreſis; for his ſweaty cloaths, and the whole ſtable where he ſtood, were ſtrongly perfumed with it. This Horſe was perfectly cured, and has continued well and free from any relapſe for many years.

About twelve years ago I was employed to another very fine Horſe of the coach breed, much in the ſame condition with this laſt, who after his recovery from the fever and convulſions, continued blind upwards of three months, and yet afterwards came gradually to his perfect ſight, and had no relapſe.

It may be worth while to obſerve, that Horſes and other brute creatures often get clear of the very worſt kind of nervous diſtempers without any return, unleſs they be old, and then the ſymptoms never totally leave them; or if any great damage happens to the Brain, or other parts contained within the ſkull, the caſe is then always deſperate. But when they do not proceed from theſe or other ſuch dangerous cauſes, but a faulty Blood, they often ſtand a better chance than men in the like circumſtances, who are apt to have their epileptick fits return upon every fright or ſurpriſe, and perhaps from no other cauſe but their own fears and apprehenſions, which ſo far affect the nervous ſyſtem, as often to bring on the very evils they dread, ſo that the diſtemper at length grows habitual, and in ſome almoſt periodical; whereas thoſe creatures that are incapable of any degree of reflection, are no ways liable to ſuch impreſſions, but forget all the evils they

Horſes not ſo apt to relapſe in convulſive diſorders as men.

they ſuffer of pain and ſickneſs, without the leaſt apprehenſion of a return, whereby their bodies recover ſufficient ſtrength to reſiſt freſh aſſaults.

Of the Palsy, and paralitick Diſorders.

THE palſy has an affinity with the foregoing diſorders, ſo far as the Nerves are affected in both, but with this difference, that in caſes meerly convulſive the Muſcles are ſtrongly contracted or ſhook by involuntary motions, proceeding from the irregular ſallies of the animal ſpirits, whereas in paralitick diſorders the Nerves ſeem to be cloged, and the courſe of the ſpirits totally or in part obſtructed; for in a palſy the uſe of ſome part of the body, or ſometimes when it derives its origin from the Head, the uſe of one whole ſide is taken away, the parts are flaccid and relaxed, without any capacity of motion, and ſometimes without ſenſe or feeling, in which reſpect a palſy affects the body in a manner quite different from an epilepſy. When the palſy ſeizes one whole ſide, it is called by the writers in phyſick *Hemiplegia*, and when ſingle parts or members are only affected, it is called *paraliſis particularis*.

Difference between the palſy and other diſorders of the Head.

THE ſigns are looſing the uſe of ſome particular member, totally or in part, particularly the Limbs, ſometimes one, ſometimes more, eſpecially the hind Legs. This kind is pretty uſual, and tremors or ſhakings ſometimes attend; but of the many Horſes I have had under my care, I do not remember above two that were ſeized with the *Hemiplegia*, *viz.* that kind of palſy that ſeizes all the Muſcles on one ſide. But in the year 1743, many Horſes were ſeized with a nervous diſtemper that very much reſembled an *Hemiplegia*, which chiefly affected one ſide, and even pulled their faces ſomewhat awry, being of a mixed kind, partly paralitick, and partly convulſive, of which further notice will be taken when I come to treat of epidemick diſeaſes.

The ſigns.

WHEN the palſy ſeizes one Limb only, it is not often dangerous, and is leſs ſo when there is a continual ſhaking and an involuntary motion; but when it ſeizes both Limbs behind, the caſe is then very troubleſome, and the Horſe is not able to ſtand, but when he is ſupported by ſome means or other, until he has recovered the uſe of his Limbs, at leaſt in ſome degree. In an *Hemiplegia* the uſe of one ſide is totally taken away, and the Horſe falls ſuddenly; and tho' at firſt he will ſtrive very much to riſe, yet it is neither in his own power, nor in the power of man, to raiſe him up ſo as to ſtand; for tho' a Horſe can move his Limbs on one ſide, yet he has not

Prognoſticks.

the leaſt power on the other, and his Limbs are ſo flaccid and relaxed on the paralitick ſide, that when they fall they double under him; and this caſe in a Horſe is ſo deſperate, that there can ſcarce be any poſſible way found to recover him.

HORSES that lie out late at graſs upon cold clay grounds, often come up with numbneſs in their Limbs, which they in ſome degree looſe the uſe of for a ſeaſon; but this is not a true ſpecies of a palſy, unleſs when the Head is alſo affected, but rather of a rheumatiſm. But a true palſy generally takes its riſe from a very ſizy and ſluggiſh Blood, proceeding for the moſt part from high feeding, and want of ſufficient exerciſe, from bad provender, blaſts, and bad air; ſometimes from hard working and want of good keeping, and frequently from old age, which is the moſt dangerous. When paralitick diſorders happen to old Horſes that have been delicately kept, or on the contrary have been in bad keeping and hard worked; if the diſtemper ſeizes one whole ſide, it is ſcarce worth while to attempt a cure. If the palſy ſeizes only particular parts in old Horſes, the cure will be difficult, and for the moſt part only palliative; for there will always remain ſomewhat of numbneſs and inſenſibility in thoſe parts that will render ſuch Horſes of little uſe. But paralitick ſymptoms in young Horſes proceeding from cold blaſts, bad provender, or any other cauſe whereby the Blood may be contaminated, are often removed without much difficulty.

The cauſe of paralitick diſorders.

The Cure. IN curing the palſy the ſame internals that are made uſe of in apoplectick and convulſive diſorders, are here alſo proper with bleeding rowels and other outward helps, ſuch as warm ſtimulating embrocations. One of the beſt of this kind, and what I have frequently applied with good ſucceſs in paralitick numbneſſes, is as follows.

Proper external applications.

Take Oil of Turpentine, four ounces; Nerve Ointment and Oil of Bays, of each two ounces; Camphor rubbed fine in a mortar, one ounce; Rectified Oil of Amber, three ounces; incorporate theſe together into a liniment; to this may be added an ounce of Tincture of Cantharides.

LET the affected part be firſt well rubbed with a woolen cloth, that the liniment may penetrate with the more eaſe; then take a ſufficient quantity thereof and anoint or embrocate the part thoroughly, working it well in with a warm hand, and as often as the liniment begins to dry in, renew it again. This method ſhould be continued till the numbneſs goes off, and the Horſe ſhews that he has recovered the uſe of his Limbs. If

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the deadneſs and lameneſs be chiefly in the hind parts, in that caſe the liniments may be alſo rubbed into the ſpines of the Back and Loins, from whence the principal Nerves that go the Limbs derive their origins; but in this caſe the Tincture of Cantharides ſhould be omitted. Rubbing the parts often is of great uſe in all ſuch caſes, and therefore ought never to be neglected. If the Head be affected on one ſide, ſo as to draw the Horſe's mouth awry, the Fore-Head, Temple, and Cheek on that ſide ought alſo to be well rubbed and embrocated with the above liniment, and when this is the caſe, internals ought not to be laid aſide; becauſe we may ſuppoſe with good reaſon, that the diſtemper has taken its riſe from the Head. If a Vertigo happens, or if the lameneſs be univerſally on one ſide, but not an univerſal deprivation of ſenſe and motion, as in the *Hemiplegia* or dead palſy; in the firſt, *viz.* in a Vertigo, all objects ſeem to turn round, ſo that a Horſe while any ſenſe remains, with the leaſt uſe of his Limbs, will naturally follow the object in his motions; in which caſe all thoſe things that have been recommended for the cure of an apoplexy, are alſo proper with rowels and outward applications. In the latter, *viz.* when the lameneſs is altogether confined to one ſide, the Horſe by leaning on the ſound ſide will alſo turn round towards the lame ſide, having the uſe of his Limbs on the ſound ſide to ſupport him, but not ſo freely on the other; but as this may happen without a Vertigo, the beſt remedy here is mild purging, and a liberal uſe of embrocations. A mixture of muſtard ſeed, freſh ground, with camphorated ſpirits frequently rubbed into the diſeaſed Limbs, will be of great uſe, *viz.* an ounce of the muſtard ſeed to half a pint of the camphorated ſpirits, and towards the latter end of the cure Opodeldock may be uſed with good ſucceſs, mixed alſo with camphorated ſpirits. If a lethargy happens, which is not unuſual in the diſtempers of the Head, few evacuations will be required; beſides, now and then a glyſter, with rowels on the Neck and under the Jaws, and the richeſt cordials and cephalicks, are neceſſary in all lethargick ſymptoms, as Caſtor, Aſſa Fœtida, Salts of Hartſhorn, Sal Armoniack, and all other volatiles; but this can only be done to Horſes that are of ſome value.

I have omitted treating the Vertigo as a particular diſtemper of the Head, becauſe it is a ſymptom that ſometimes attends all other cephalick diſorders, and requires the ſame method of cure.

CHAP. II.

Of the Diſtempers that affect the Head, ariſing from parts at a diſtance from the Brain and origin of the Nerves.

HAVING treated of thoſe maladies that are peculiar to the Head, which cauſe the ſtaggers and convulſions in Horſes, I ſhall now proceed to thoſe that affect the Brain in a no leſs ſenſible manner, tho' they take their riſe from diſtant and remote parts; and which I have obſerved to be more frequent among Horſes than thoſe that take their riſe immediately from the Head, and therefore ought to be carefully diſtinguiſhed by thoſe who undertake the cure of Horſes.

EVERY one muſt needs be ſenſible that violent and exceſſive pain in any part of the Body will excite convulſions, but eſpecially when the pain is in thoſe parts where the Nerves abound moſt, as the Stomach, the Guts, the Midriff, and tendinous parts of the Limbs; and therefore we find Horſes often convulſed in the gripes and ſtranguary, when the nervous parts of the Guts and Bladder are affected with violent Pain and inflammation. Sometimes Horſes become convulſed with wounds in the Feet when the Tendons in thoſe parts are pricked and bruiſed, or in any other part where the Tendons are wounded; but eſpecially punctured wounds in the Joints with forks, or with ſharp ſplinters, cauſe very great anguiſh and exceſſive pain, and ſometimes with a diſpoſition to a gangrene and mortification, which often excite convulſions. Theſe things are plain and viſible; and it is no leſs plain that inward impoſtumations, eſpecially in the Stomach, Lungs, and Midriff, will produce convulſions that are moſt dangerous and often prove deadly. And further, we may often obſerve Horſes have convulſive diſorders from a plenitude and fulneſs of Blood, which however is ſometimes eaſily removed, as alſo thoſe that proceed from a plenitude of the Stomach, or when the Guts are crammed with dung and aliment, eſpecially when the dung by long continuance is grown hard and dry; all theſe things will cauſe convulſive diſorders, with the ſtaggers; but I ſhall now proceed to treat of thoſe things more particularly.

Convulſions from the Stomach, and other principal Bowels.

OF this kind, is that deplorable diſtemper ſo well known but little underſtood, which locks up the Jaws of a Horſe ſo cloſe, that it is almoſt impoſſible to force them open by any means whatever, either to receive food or phyſick.

Solleyſell calls this malady the Stags Evil, or Palſy in the Jaws, tho' in moſt of its ſymptoms, it is directly contrary to a Palſy. With our *Engliſh* Farriers, it goes under the general name of Convulſions, and indeed it ſoon turns to an univerſal Cramp or Convulſion, that ſeizes all the Muſclesof the Body of a Horſe. But the true nature and cauſe of this extraordinary Convulſion ſeems not as yet to have been rightly underſtood, either by our own Countrymen, or the Writers of foreign Nations. It almoſt always ſeizes ſuddenly, and without any previous ſymptoms, ſuch as the want of appetite, and the other ſigns of ſickneſs; for I have often known Horſes clear their racks in the night, and in the morning drink their water, and eat their allowance of corn as uſual, and in leſs than half an hour have had their Mouths cloſe ſhut up, and their whole Bodies convuls'd. Jaw-ſet Horſes.

As ſoon as a Horſe is ſeiz'd in this manner, his Head is rais'd with his Noſe towards his rack, his Ears prick'd up, and his Tail cock'd, looking with an eagerneſs, as an hungry Horſe when hay is put down to him, or like a high-ſpirited Horſe when he is put upon his mettle; inſomuch, that thoſe who are ſtrangers to ſuch things, when they ſee a Horſe ſtand in this manner, will ſcarce believe any thing of conſequence ails him; and I have ſeen ſuch perſons greatly ſurpriz'd when they have been told of the danger; but they are ſoon convinced, when they ſee other ſymptoms come on apace, that his Neck grows ſtiff, cramp'd, and almoſt immoveable, and if a Horſe in this condition lives a few days, ſeveral knots and ganglions will riſe on the tendinous parts thereof, and all the Muſcles both before and behind, will be ſo much pull'd and cramp'd, and ſo ſtretched, that he looks as if he was nail'd to the pavement, with his Legs ſtiff, wide, and ſtradling; his ſkin is drawn ſo tight on all parts of his Body, that it is almoſt impoſſible to move it, and if trial be made to make him walk, he is ready to fall at every ſtep, unleſs he be carefully ſupported; his Eyes are ſo fixed with the inaction of the Muſcles, as gives him a deadneſs in his looks. He ſnorts and ſneezes often, pants continually with ſhortneſs of breath, and this ſymptom increaſes continually till he drops down dead, which generally happens in In what manner a Horſe appears in this diſtemper.

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a few days, unleſs ſome very ſudden and effectual turn can be given to the diſtemper.

THESE are the uſual ſigns of that fatal diſtemper, which here in *England* paſſes more particularly under the name of Convulſions; and tho' it differs in many reſpects from the Epilepſy above deſcrib'd, both as to its ſymptoms and cauſe, yet it is the moſt univerſal in its effects of all other convulſive diſorders.

YOUNG Horſes from four to ſix years old, are the moſt ſubject to it, and the large coach breed, and all kinds of draught Horſes, more than ſaddle Horſes. The moſt uſual cauſe of this univerſal Cramp or Convulſion, is from bots in the Stomach, which being bred there from the eggs, generally come to their maturity in the months of *April*, *May*, or *June*; this being the ſeaſon wherein this diſtemper chiefly prevails among young Horſes; and when it happens at any other time of the year, or to Horſes above ſix years old, that have been in buſineſs, it is then for the moſt part owing to other cauſes, as impoſtumations, or ulcers in the midriff, or ſome other of the principal *Viſcera* which I have ſeen; but theſe inſtances are not ſo frequent, as thoſe from vermin in the Stomach, and even the latter are not ſo frequent ſome ſeaſons as others, which I have alſo obſerved, and therefore they may probably be owing to unwholſome food, wherein the eggs of thoſe animals have been depoſited, but chiefly to high, foul feeding, for this ſort of Convulſion, is moſt uſual among thoſe Horſes that have been kept up and pamper'd for ſale with little or no exerciſe, which diſpoſes their Blood to putrefaction, whenever they come to be heated in their work.

The Cauſes of this fatal Diſtemper for the moſt part from Vermin in the Stomach.

I ſhall not here take up the reader's time, with the different opinions and conjectures of phyſicians, concerning the conveyance of the eggs of inſects into the Stomach, or into the ſtreight Gut, where they are moſt uſually found; but it is certain the ſtomach, as well as the ſtreight Gut, becomes a proper *Nidus* to bring them to life. They appear to be no other than large Maggots, with ſharp prickly feet on both ſides of their Bellies. Thoſe in the ſtreight Gut, are commonly of a yellowiſh colour, and are no ways dangerous, but in the Stomach they are generally of a larger ſize, and more inclin'd to the orange, but without any other ſpecifick difference. The eggs from whence theſe bots are produced, are diſperſed in cluſters all round the lower Orifice of the Stomach, where it is thickeſt, and where probably, the muſcular action is moſt languid, that part being as it were conſtantly diſtended by the weight of the aliment. They are laid under the inner Coat, or thin Membrane of the Stomach, which covers them all over, as the eggs of thoſe vermin that blight the trees in the ſpring, are covered over with a fine

filamentous Membrane; and as theſe deſtroy the young tender leaf, and curl it up into folds, ſo thoſe when they come to form and life, they burſt through the inner Coat of the Stomach, with their britch and tail ſtreight outwards, and their trunks fixed ſo into the muſcular or fleſhy Coat, that it ſometimes requires a good pull to diſengage them. From the Blood of this muſcular Coat they draw their nouriſhment, which they ſuck like ſo many leeches, every one ulcerating and purſing up the part where it fixes like a honeycomb. I have ſeen in the ſame Stomach, part of the eggs covered over with the inner Membrane, and thoſe of various ſizes, ſome no larger than a millet ſeed, others about the ſize of peas, and ſome larger, ſtretching out the inner Coat, and juſt burſting through it, others in full life, and in thick cluſters, ſucking Blood from the Muſcular Coat. By this gradation, the ſymptoms ſuddenly increaſe, and often make ſuch a quick havock in the Stomach, as renders the diſtemper incurable. From all which we may infer, that perhaps the Muſcles of the Stomach are not indowed with ſo great a force, as *Bellini*, and many other modern Phyſicians, have imagined, but but that ſomething elſe may be required in digeſtion, beſides the bare muſcular action: But be that as it will, we may eaſily account for the convulſive ſymptoms that attend this malady, and their univerſality, from the diſtribution of the Nerves over the Coats of the Stomach, which appear to be more numerous there, than in any other of the *Viſcera*, and have their derivations by communicating branches, both from the Head, and from the Spines of the Back and Loins; and this is the reaſon of what we ſee from daily experience, that whatever offends the Stomach in any degree, always affects the Head, and other parts of the Body. But theſe things do not often cauſe dangerous convulſions in thoſe creatures that have a capacity to vomit; but when ulcers are thus ingendered in the Stomach of a Horſe that has not this capacity, and all the powers and faculties thereof thereby deſtroy'd, the caſe muſt then be very deſperate, and the whole Body, and all its parts, muſt of conſequence be convuls'd.

Sometimes Ulcers or Impoſtumes in the Midriff and other principal Bowels produce the ſame effect.

The like ſymptoms are alſo in ſome meaſure produced from ulcerations in the Diaphragma or Midriff, by the vaſt diſtribution of twigs of Nerves, all over the tendinous parts thereof, having their derivations and communications in the ſame manner with thoſe of the Stomach. Beſides the Midriff being placed near the center of the whole Body, and its muſcular action being in concert with the Muſcles of the Breaſt, Shoulders, Lower Belly, and Loins, it is no wonder if impoſtumations there, or in any other part near it, ſhould alſo bring on univerſal Convulſions.

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How to diſtinguiſh the one from the other.

BUT it is of uſe in the cure of theſe maladies, to diſtinguiſh between an univerſal convulſion that takes its riſe from vermin in the Stomach, and when it is produced by a diſtemperature of the Midriff, or any other of the principal Viſcera, which will alſo teach us how to make a right Prognoſtick in theſe and all ſuch extraordinary caſes.

The good and bad Prognoſticks.

WHEN the diſtemper ariſes from bots in the Stomach, it ſeizes ſuddenly and without any previous notice. The convulſions in this caſe often ſeiſe a Horſe at once, and the Horſe appears with all the ſymptoms above deſcribed; and when his mouth is ſhut ſo cloſe, as even ſometimes happens at the very firſt onſet of the diſtemper, ſo as it cannot by any means be opened, the caſe is then exceeding dangerous, and the cure almoſt impracticable; but when the mouth is ſo far free from the convulſions, that a medicine may be adminiſtered, tho' it be with ſome difficulty, and that he can make a ſhift to lick up a little bran, and ſwallow a little white water or gruel, there may be ſome hopes of a recovery; eſpecially if the Neck is not exceſſively ſtiff and cramped, which is always a bad ſign. But if a Horſe is able to turn his Head pretty freely, and can move his Eyes backwards and forwards, or ſide-ways, theſe may be reckoned promiſing ſigns, and the Horſe in ſuch circumſtances, may be cured with proper care and right applications.

BUT when this ſort of univerſal cramp or convulſion proceeds from a diſtemperature of the Midriff, or any other of the principal Viſcera, there are always ſome previous ſymptoms that go before, by which it may be diſtinguiſhed from the convulſions that proceed from bots and vermin. When this is the caſe, a Horſe firſt of all falls off his Stomach, grows gradually weak, feeble, and diſpirited in his work, turns ſhort-breathed with the leaſt exerciſe. Theſe are the ſigns which I have obſerved to go before this diſtemper, tho' they are alſo common in many other inward diſorders, and are generally owing to ſome miſmanagement, as the working Horſes beyond their ſtrength, eſpecially when they are growing old by working, on a ſtarving low diet, and from want of gradual cooling, and not allowing proper intervals of reſt, and ſuch like neglects. And tho' the diſtemper advances more ſlowly in this caſe than in the other that proceeds from vermin, yet it is no leſs dangerous, becauſe the true cauſe is ſeldom known till it be too late to provide a remedy; whereas a Horſe that turns convulſed by vermin in his Stomach, has a better chance, not only becauſe it generally happens to young Horſes that have been neither broke by age nor labour, nor do we ſuppoſe any previous indiſpoſition in the Blood more than what is uſual to young Horſes from foul feeding and want of ſufficient exerciſe.

In order to the cure, it will be neceſſary to obſerve carefully theſe diſtinctions; and if a young Horſe that has been but lately in the dealer's hands happens to be ſeized ſuddenly, and if this falls out in the ſpring and beginning of the ſummer, without any previous ſymptoms or foretokens of ſickneſs, we may reaſonably conclude the diſtemper to be owing to *Botts* in the Stomach, and to no other cauſe. In which caſe no time is to be loſt, but before his Mouth is quite ſhut up the following ball may be given.

The Cure when it proceeds from botts in the Stomach.

Take Mercurius Dulcis and the powder of Diapente, of each half an ounce; make it into a ball with a ſufficient quantity of Conſerve of Roſes, and roll it in Liquorice Powder or Flower, and waſh it down with a hornful or two of warm Water.

I have ſeen very extraordinary effects from this and the other preparations of Mercury in ſuch caſes. When this ball has been adminiſtered make the following infuſion.

Take Pennyroyal and Rue, of each two large handfulls; Chamomile Flowers, one handful; Aſſa Fœtida and Caſtor, of each half an ounce; Saffron and Liquorice Root, ſliced, of each two drams.

Let theſe be infuſed in four quarts of boiling water, and when the infuſion has ſtood till almoſt cold, give three or four hornfuls, and repeat the doſe three or four times a day, letting the ingredients continue always in infuſion, and the Caſtor and Aſſa Fœtida tied in a rag, which may be ſqueezed into the drench-horn, as has been directed in the other cephalick diſorders. For tho' we ſuppoſe the convulſions in this caſe to be only from the ulceration of the Stomach, yet the ſame method ought to be followed as if they proceeded immediately from the Head and origins of the Nerves, both with reſpect to internals and externals, and therefore I would recommend what has been above directed for outward application in paralitick caſes, or the following, which I have always found to be of great uſe in all cramps and convulſive contractions of the Muſcles, *viz.*

Nerve Ointment, or the Unguentum Martratum, of either of theſe four ounces; Ointment of Marſh-Mallows, ſix ounces; Muſtard Seed, ground, and Flanders Oil of Bays, of each two ounces; Oil of Amber,

ber, two ounces; with a ſufficient quantity of Camphorated Spirits of Wine, to make it into a thin Liniment.

This muſt be rubbed into the Cheeks, Temples, the Neck, Shoulders, Spines of the Back and Loins, and wherever there is the greateſt ſtiffneſs. Muſtard Seed alone, freſh ground, worked well into the affected parts with Camphorate Spirits, may alſo be uſed ſucceſsfully to Horſes of ſmall value, for outward application, and internally the following cheap drink, which may be given two or three hornfuls once in four hours.

Take Rue, Penny-Royal, and Tobacco, of each a handful; Aſſa Fœtida, an ounce; boil them in a quart of Forge Water, and let the decoction ſtand conſtantly on the ingredients.

But ſometimes Horſes Mouths are locked up ſo cloſe in this diſtemper that ſcarce any thing can be adminiſtered that way, and if this ſymptom is not ſpeedily removed, the caſe ſoon proves deadly. I have had many convulſed Horſes under my care, ſome of which have died, others have been perfectly cured; tho' whenever Horſes are ſeized in this manner, the practitioners in farriery generally give them up for dead, and their method is to try if they can get any thing down, and when they find that impracticable, they adminiſter glyſters, and fill them full of rowels and other iſſues; tho' by reaſon of the contraction and cloſeneſs of the ſkin, ſcarce any of them come to a kindly digeſtion. I ſhall therefore relate ſome few inſtances of cures that were made by my direction, which if rightly underſtood, may be of uſe to thoſe who practice farriery, and will ſhew how much apparatus is neceſſary in removing this deſperate diſtemper, which cannot poſſibly be effected without ſome expence and very great labour.

Inſtances of very extraordinary caſes of this kind.

About twelve years ago a young Troop Horſe was ſeized with this ſort of convulſion, but not ſo ſeverely as in ſome other caſes that will be related. It began with the ſtaggers, and ſudden fits of ſtarting, which made him rear up, and often get his Fore-feet into the manger. His ſudden fits made me apprehend his diſtemper to proceed from vermin in his Stomach, which is a conſtant ſymptom in all the convulſions that proceed from this cauſe; but as his Mouth was not ſo conſtantly and cloſely ſhut as in many the like caſes where I have been concerned, we could therefore at times make a ſhift to convey ſome medicines into him, and tho' he could not at firſt eat his common food, yet he could, by allowing him time, ſip a pretty

pretty good quantity of water-gruel, which ſuſtained him till the medicines took effect. He was cured with mercurials and the other things above directed, and afterwards by the help of mild Aloetick Purges.

Much about the ſame time a young Drum Horſe was alſo ſeized within a few days after he came out of the dealer's hands. He was ſo far relieved in a fortnights time, that he could make a ſhift to eat ſome ſcalded bran, with a ſmall quantity of Hay, tho' very leiſurely, which was given in handfuls, and frequently by the hand day and night, to keep his Jaws moving. Two men were alſo employed continually to rub his Head, Neck, and Cheeks, and wherever elſe the ſtiffneſs appeared moſt, and theſe were relieved by others; for a Horſe in this condition never lies down till the convulſions of the Muſcles are in a great meaſure removed, and therefore if the rubbing had been omitted it would been difficult to have ſaved him. And I have always obſerved if a convulſed Horſe ſtands two hours without rubbing, the ſtiffneſs and inſenſibility increaſes, and certainly for want of this management many Horſes have been loſt, that otherwiſe might have been ſaved; an ounce of Aſſa Fœtida was alſo tied up in a piece of ſtrong coarſe linen rag, and put between his grinders to champ on. This was rolled up in the cloth and tied at both ends with two pieces of packthread, which were faſtened to his collar, and one ſide was always untied when any thing was to be given him either of food or phyſick. This Horſe recovered perfectly in about two month's time, and has been ſince abroad in *Germany* and the *Netherlands*, where he has undergone a great deal of fatigue and returned home with the troop in perfect health.

I could add ſeveral inſtances of this kind, which for brevities ſake I am obliged to paſs over, and therefore ſhall only take notice of one more, which for its ſingularity deſerves very well to be regarded, and that was the caſe of a young Horſe in the other troop of grenadiers. He had been but a few days taken into the troop when he was all of a ſudden ſeized with this kind of convulſion, which was firſt diſcovered as he was leading out to water at the afternoons watering time. I happened then to be preſent, and perceived him come reeling along with his Noſe turned out, his Eyes fixed and immoveable, with all the other ſigns that uſually attend this fatal diſtemper, and when he came to the trough could not reach the water becauſe of the cramp and ſtiffneſs of his Neck, and when it was held to him in a pail could not drink, tho' he ſhewed an eagerneſs for it, his Mouth being ſhut up ſo cloſe that it was ſcarce poſſible to put a knife between his Teeth. This was ſudden, as all theſe maladies generally are, for he had

eat his common allowance juſt before he was ſeized, except a ſmall matter of hay, which he had partly pulled out of the rack into the manger.

We found it impracticable to adminiſter any kind of medicine, till by rubbing his Cheeks, Jaws, and Temples, and his whole Neck, for a conſiderable time, we made a ſhift, with great difficulty, to thruſt down part of a calomel ball, on the end of a ſmall ſtick, and then to pour into his Noſtrils a very ſmall portion of a ſtrong cephalick drink, thinking by that means to convey the ball downwards into his Stomach, which however had but little effect any further than this, that he had not ſuch ſudden fits and agitations as I have ſeen in others in the like circumſtances, but continued more quiet; neither did his fever increaſe, as uſually happens when the diſtemper is gaining ground; but all this while his Mouth continued ſo much ſhut that he could neither eat nor drink for three weeks, only by continually rubbing his Jaws and Neck, he would ſometimes make a ſhift to ſuck about a handful of ſcalded bran, or ſometimes a little oatmeal moiſtened with warm water, but in ſo ſmall a quantity, that it is poſſible he might have ſtarved if other methods had not been taken to keep him alive.

I have often obſerved that the forcing the Jaws open by violent means, puts a Horſe into ſuch agonies, that it rather increaſes than abates the ſymptoms, and therefore I contrived to give him both his food and phyſick by the Fundament, through a pipe fourteen inches long, by which he ſeemed to receive great benefit, for we could perceive the ſymptoms abate daily. His Flanks grew more quiet, he ſtood more ſtill and free from ſudden fits and ſtartings; all which ſymptoms are uſually in the continuance and increaſe of this diſtemper. The glyſters were contrived in the following manner.

Rue, Penny Royal, and Chamomile Flowers, of each a handful; Savin and Box, of each half a handful; Garlick, an ounce; Caſtor and Aſſa Fœtida, of each half an ounce.

In making this glyſter the herbs are to be boiled firſt in two quarts of water, in a covered veſſel, the ſpace of ten or fifteen minutes, with the Caſtor and Aſſa Fœtida cut in ſmall pieces and tied in a rag, not only to ſave the Caſtor from waſte, but that it may be ſqueezed into ſeveral glyſters. Then the garlick to be added and continued cloſe covered over the fire the ſpace of ten minutes longer, after this the liquor to be poured off into a pan or any other convenient veſſel, then add of Linſeed Oil, or Treacle,

Treacle, of each four ounces, and laſt of all half an ounce of unrectified Oil of Amber, the Treacle and the Oils are to be mixed with the decoction when it is put into the bag.

This glyſter was repeated once a day for a fortnight, and by way of diet, was given every day three or four quarts of Milk, boiled with Oatmeal and water, a bag with a long pipe being left in the ſtable for that purpoſe. He retained every thing that was adminiſtered that way, which he generally ſucked up of himſelf without force. This perhaps was in ſome meaſure owing to the nature of this univerſal convulſion, which cauſes ſuch irregular motions in the Midriff and Muſcles of Reſpiration, as in ſome meaſure inverts the natural motions of the Guts; and for the ſame reaſon, Horſes in this condition ſeldom dung, but ſtale often, and when they dung, it drops from them in a manner inſenſibly, and often no more than one or two balls at a time. And therefore as this Horſe could receive little or no ſuſtenance by the Mouth, I was determined to make trial how far he might receive nouriſhment by way of injection backwards, whether a thin diluted food thrown into the ſtreight Gut, and from thence over into the ſmall Guts, by the help of a long pipe, might not find a paſſage into the Blood through the Lacteals, eſpecially there being experiments of this kind made on the human body, both in adminiſtring food and phyſick, particularly in giving the bark by way of glyſter, in agues and intermitting fevers, which has been found ſucceſsful, where the Stomach was not able to bear its auſterity. It was upon this footing that I treated him in the manner I have deſcribed, which I imagined was not altogether without its effect; for he ſcarce eat in three weeks what was ſufficient to ſuſtain him one day, ſo that it was impoſſible for him to have lived had he not been ſupported by what was thrown into his Bowels; and tho' by this means he loſt his Fleſh very ſenſibly, yet he ſtill retained a good deal of vigor and vivacity. He had two men conſtantly to look after him, and theſe relieved by others, who had orders to rub his whole Body often, which greatly helped to relax his ſkin, and remove the crampineſs of his Muſcles; and tho' he had not for the firſt fortnight recovered the uſe of his Jaws, yet we obſerved him daily to move with leſs ſtiffneſs, and often to lick in his manger as if he craved after food. He alſo breathed with leſs difficulty, and had ſeveral other good ſigns. This encouraged me to try another experiment with Opium, from the known quality of that drug in relaxing the Animal Fibres, which I therefore thought might be of ſervice to remove the contractions of the Muſcles about his Mouth and Jaws, which all this while continued in ſome meaſure obſtinate, and without

out ſome powerful relief might prove fatal, even tho' the original cauſe was in a great meaſure taken away. Therefore I cauſed half an ounce of crude Opium to be diſſolved in one of his glyſters, which was followed with theſe circumſtances, that the Horſe ſoon lay down; he began to point his ears backwards and forwards, and could move his Neck pretty freely, and his Mouth was ſo far at liberty that he took his drinks with little or no difficulty, and could eat hay and bran ſufficient to ſuſtain him. He likewiſe moved his whole body ſo readily, that we could walk him an hour every day: And that I might follow up what I imagined had been ſucceſsfully begun by the Opiate glyſter, I ordered him ſome days after an ounce of the common *Matthews*'s pill, which contains about two drams of Opium, and the ſame quantity of Aſſa Fœtida made into a ball, which was given at his mouth, and waſhed down with a hornful of gruel, which was done with great eaſe, his mouth being grown pretty pliable. This ball being once more repeated, he recovered daily, being continued for ſome time in the uſe of the drinks, which were now adminiſtered only twice a week with good rubbing, and as ſoon as he began to recover his fleſh, was gently purged. By this method he was perfectly cured, without any other ill effect than a blemiſh on one Eye, cauſed by the violence and ſtrong contraction of the Muſcles during the convulſions, which indeed were as bad as any I ever ſaw, even where they proved the moſt fatal.

Thus, I judged it might be proper to relate the hiſtory of this cure in its whole proceſs, including all the principal circumſtances thereof, wherein it may be obſerved that I have ſcarcely in any reſpect followed the common method of repeated bleedings, purging glyſters, and rowels; all which might be proper if the convulſions proceeded either originally from the Head, or from a viſcid ſizy Blood, or from wounds or contuſions, *&c.* But as I have diſcovered this kind of convulſion or univerſal cramp in young Horſes, uſually to take its riſe from the cauſes above aſſigned, to wit, from vermin in their Stomachs, I have therefore in ſuch caſes bled, but ſeldom I made uſe of no purging glyſters, becauſe the irritation made in the Bowels, and a diſcharge from thence can be of little or no uſe, but hurtful, where a powerful revulſion is not abſolutely neceſſary, but rather hurtful, eſpecially where a Horſe cannot feed. And as for rowels, I have ſeen the farriers put a rowel on each ſide of the Neck, one in the Belly, one on the Forehead, and one on each Thigh; but the ill ſucceſs they meet with has made them not ſo fond of that kind of practice of late, as formerly, for the ſkin is drawn ſo tight in all parts, that the rowels ſeldom

come to a kindly digeſtion, but are apt to mortify, and thereby encreaſe the Horſes miſery, and therefore I have ſeldom ordered rowelling in this caſe, but under the Jaws, or in the Breaſt, there being no room for rowels any where elſe.

What effect opiates may have in deſtroying vermin, I ſhall not offer poſitively to determine, whether by rarifying the Blood to a great degree, and conſequently augmenting its motion, or by any other quality may cauſe their eggs to come looſe from their adheſions, as we ſee tobacco water deſtroys the eggs of vermin on the leaves of plants. In theſe things we have no way to come at any certainty without experiments, tho' it is likely by its relaxing quality it may be uſeful in ſuch an univerſal cramp, eſpecially when the management of it happens to fall in good hands. But all are agreed that Mercury and ſeveral of its preparations are efficacious in deſtroying of vermin, both by its weight and ſubtilty diſpoſing it to paſs through the minuteſt capillaries, and alſo by its globular figure, which no kind of change, by whatever *Menſtruum*, or other management it is diſſolved, can alter; and therefore I have given it with good ſucceſs in various ſhapes, to deſtroy vermin, ſometimes crude, ſometimes the calomel, or *Mercurius Dulcis*, and in ſome very urgent caſes of this kind, I have exhibited a dram, ſometimes two drams of turbith mineral, but whoever ventures upon theſe, and ſuch like preparations, ought both to underſtand the nature of the medicine, and the conſtitution to which it is adminiſter'd, concerning which, ſee further in the Farcy. I could relate many more inſtances of cures of this kind which I have made ſince, and particularly three very lately, which were all managed in the ſame manner, by giving their food and phyſick by way of glyſter, and as they differed only in ſome few circumſtances from thoſe already related, I ſhall forbear to go into the particulars of them, but proceed to thoſe Convulſions which are owing to other cauſes.

The Cure when the Diſtemper proceeds from the Midriff.

When this diſtemper does not proceed from Vermin, as ſometimes happens to old Horſes that have been ſtrain'd in working, or after ſome very bad ſurfeit, then the mercurial preparations will be in a great meaſure unneceſſary or perhaps hurtful, and therefore recourſe muſt be had to the cephalick drinks above inſerted, to bleeding and moderate purging, and proper alteratives. Rubbing and the uſe of linaments externally, is here alſo of great ſervice, and frequent glyſters of the emollient kind. In this caſe a Horſe muſt be treated with great gentleneſs, becauſe there is often ſome inward decay, which will admit of no rough dealing. I have ſeen in Horſes that have dy'd of this diſtemper, the Midriff ulcerated, which being extremely full of branches and twigs from the Phrenick Nerves, that communicate with

with all the other Nerves of the Body, and being itſelf a kind of Centre Muſcle, that acts in concert both with the Muſcles of the Breaſt and Lower Belly, makes it therefore the more eaſy to account for this univerſal cramp, which when it proceeds from hence, may be looked upon for the moſt part as the harbinger of death, unleſs the ſymptoms are ſo moderate, that there is room for adminiſtring medicines, and that the Horſe is able to take a ſufficient quantity of food to ſuſtain him; and if the ſymptoms do not increaſe but abate, it is poſſible for him to recover, tho' if the Horſe be old, or of a very weak conſtitution, he will ſcarce be worth the expence and pains. Some I have known recover and do very well, that have had all the ſymptoms of a diſeaſed Midriff, and in this caſe, beſides the uſe of the cephalick medicines, rowels with good feeding are of great uſe as ſoon as the Horſe's Skin is looſened enough to bear them.

I have taken notice, that this univerſal Convulſion may alſo take its riſe from a faulty Blood, in which caſe it may be removed without much difficulty, unleſs the Horſe be very old, as in the inſtance I am going to relate.

An univerſal Cramp which began in the hind Legs of a Horſe.

A Horſe in the Third Troop of Guards, was ſeized with this univerſal Cramp or Convulſion, which began in his hind parts, quite different from that which proceeds from vermin, or a faulty Midriff, both which ſeize ſuddenly. At firſt nothing appear'd but a cramp in his Hind Legs, to which ſome Horſes are often ſubject, and generally come well with moving till they are warm, and therefore the Groom that looked after him, trotted him twice a-day in the riding-houſe, after which it went off for a time, but in a few days he was all over convulſed, with his Jaws ſet, yet not ſo cloſe, but we could with ſome difficulty give him both balls and drinks. The Horſe was about eight years old, and had been near three years in the troop. His Blood was exceeding poor and viſcid, reſembling paſte, and the loſs of it gave him no relief. I concluded from hence, and from other circumſtances, that his diſtemper proceeded altogether from a depraved, weak, ſizy Blood, and not from vermin, for when the Convulſions happen to young Horſes from vermin, their Blood is indeed ſizy, but at the ſame time rich and florid; but it was quite otherwiſe with this Horſe; the Convulſions began in the Limbs, where the motion of the Blood and Juices is moſt languid, and from the conſent that all the Muſcles have one with another, aſcended gradually like a fire that begins in the bottom of a houſe, and riſing upwards, would ſoon conſume the whole fabrick, unleſs ſpeedily extinguiſhed. This Horſe was cur'd without much difficulty, tho' it was ſometime before he came to a perfect ſtate of health. The medicines adminiſter'd to him were the ſame that have been already inſerted in the cure of Epilepſies, and other cephalick

The Method of his Cure.

cephalick diſorders, with the cinabar balls, which were proper to attenuate and take off the ſizineſs of his Blood. In ſuch caſes a ſmall quantity of wine may alſo be indulged, with ſaffron, virginia ſnakeweed, and contrayerva roots to be mixed with the drinks, and in ſome caſes a tincture of ſteel, to warm and invigorate the Blood, *viz.*

Take Caſtor, and Aſſa Fœtida, of each half an ounce; Rue and Pennyroyal, of each a large handful; Filings of Iron ty'd up in a bag, half a pound; infuſe theſe in two quarts of boiling Water, and keep the infuſion cloſe covered by itſelf for uſe. Alſo take Virginia Snakeweed, Contrayerva, and Valerian, of each half an ounce; Saffron and Cochineal, of each two drams; infuſe theſe in a quart of White Wine, letting it ſtand in the ſun or by a warm fire twenty-four hours.

TAKE a pint of the firſt infuſion, and a gill of this tincture for a doſe, which may be given once a day or oftener, as the ſymptoms require.

If the Horſe's mouth continues pretty much lock'd up, that he receives his drinks with difficulty, ſufficient intervals muſt be allowed between every hornful; and indeed this caution is as neceſſary here as in thoſe caſes where we ſuppoſe inflammations or impoſtumes in the Lungs. But good rubbing and the uſe of nervous liniments externally, are no leſs neceſſary than internals; for ſuch is the nature of all cramps and convulſive contractions, that unleſs the convulſed parts be continually warmed with ſtimulating things, and frequent frictions, the contractions will grow ſtronger and more obſtinate; and further, becauſe convulſed Horſes are apt to be exceeding coſtive, it is neceſſary to give glyſters often, till they come to the uſe of their Jaws, and are able to feed tolerably well: After which purges are exceeding proper, not only to attenuate the Blood, but to drain off the ſuperfluous ſize that clogs the Muſcles and hinders the vibrations of the Nerves, or the free intercourſe of the animal ſpirits. The following will be found the moſt beneficial in this caſe, wherein the common purges of plantation Aloes would be hurtful, being more apt to create nervous diſorders than to cure them. Therefore,

A proper purge for a convulſed Horſe.

Take Succotrine Aloes, one ounce; the cleaneſt Myrrh, half an ounce; Aſſa Fœtida and Gum Ammonicum, of each two drams; Saffron, one dram; beat the ingredients till they come into a paſte, then form the whole into a ball, with Syrup of Marſh Mallows, and roll it in liquorice powder or flower.

These may be given one in a week, and continued three weeks or a month, or longer, if needful. They will juſt open the Horſe's Body, and work as an alterative to cleanſe and purify the Blood, and ſo gently that the Horſe may be uſed moderately in any kind of buſineſs in the intervals between the purges.

Convulſions and Staggers, from a Retention of the Dung and Aliment.

THIS is a caſe I have ſeveral times met with; and tho' it is ſeldom dangerous where there is no complication with ſome other diſtemper, yet it ſometimes proves fatal, when it happens not to be rightly underſtood. And I have known in ſome inſtances the Stomach and Guts ſo extremely crammed, that it has ſcarce been poſſible to adminiſter any relief.

The Cauſe.

These ſtoppages proceed from various cauſes, and only affect the Head when they happen to be of ſome continuance; ſometimes they are cauſed by full feeding, with the want of air and ſufficient exerciſe, eſpecially in hot dry weather, and in conſtitutions naturally hot; but moſt uſually from the nature and qualities of their food, as bad hay, or any other bad provender, as rank clover, when it has imbibed moiſture from the damp fogs, which renders them ſo tough that they lie like a wad, and diſtend the Guts ſo as to impede their proper functions. Other things have alſo the ſame effect, as ſoiling Horſes with any kind of green herbage when it chances to be grown too old and tough, and has loſt its ſucculency; eſpecially when it has been cut too long before it is uſed. All theſe things often cauſe ſtoppages in the Guts and firſt Paſſages, and will ſometimes excite ſuch diſorders, as by their continuance affect the Head in a very ſenſible manner.

The ſigns that accompany this kind.

When the ſtaggers and convulſive ſymptoms ariſe from ſuch cauſes, the Horſe generally looks dull about the Head, with his Eyes ſwoln, is feeble, reels and totters as he moves, his mouth is generally ſtiff, but not quite ſhut up, as in the caſes above deſcribed; is ſhort-breathed upon the leaſt motion, and for the moſt part a ſhort cough, becauſe the fulneſs of the Stomach and Guts bolſters up the Midriff ſo as to preſs continually upon the Lungs, and thereby interrupts reſpiration; and as a conſequence of this, the motion of the flanks is irregular, tho' ſeldom violent. For the ſame reaſon, he ſcarce ever lies down till ſome relief is given him, becauſe the extreme fulneſs of the Stomach and Guts cauſes great uneaſineſs, whenever

he offers to bend his body, in ſo much that many when they ſee a Horſe in this condition, are apt to imagine he has received ſome hurt in his Back or Loins. Other ſigns are coſtiveneſs; for he is apt to ſtrain much when he goes to dung, and has many fruitleſs motions; he ſtales but little, and that of a dark colour, which often proceeds from the obſtructions the Gall meets with in its paſſage from the Liver into the Guts; and thereupon the Yellows ſometimes alſo inſue.

In order to the cure, let ſome perſon that has a ſmall hand rake him thoroughly, and bring out the dung that lies in the ſtreight Gut, which is generally hard, and made up of little ſmall balls, of a blackiſh colour, and quite dry, without moiſture. After this let him have plenty of emollient oily Glyſters, made of Mallows, Marſh-Mallows, the herbs Mercury, Pelitory, and ſuch like; but in places where theſe cannot be readily got, they may be made of pot liquor, water gruel, or any kind of meat broth. To three pints or two quarts of the liquor may be added a pint of Lintſeed Oil, and half a pound of Treacle, or a pound of brown Sugar, to be given milk warm, and repeated every day, at leaſt till his dung comes away with eaſe, and grows ſoft. His diet ſhould be the beſt hay, ſcalded bran, ſcalded chaff, or boiled barley, till he has been thoroughly emptied, and for ſome time afterwards. At firſt his dung that comes away with the glyſters, will be in ſmall hard balls, and ſometimes along with it a naſty putrid ſlime, which when once diſcharged, gives great relief; but by the continuance of the glyſters, and the open diet, the dung ſoon alters, and comes away in ſuch great loads, that one would ſcarce imagine it could paſs through the fundament; but as ſoon as this happens it brings ſure relief, and a way is made for gentle lenitive purges, which in this caſe are always the moſt ſucceſsful and nothing dangerous. The Cure.

Take Lenitive Electuary and Cream of Tartar, of each four ounces; brown Sugar, two ounces; mix them in a pint and a half of mild ale; the Ale to be made hot, that the Cream of Tartar may be the more eaſily diſſolved in it; after that the Sugar, and laſt of all the Lenitive Electuary.

This is to be given in the morning upon an empty Stomach, blood-warm, and it will probably begin to work before night, and ſeldom makes a Horſe ſick, as the ſtronger purges are apt to do, when a Horſe is full and coſtive; ſo that he will drink warm water, or warm gruel, without reluctance. It may be repeated three or four times, allowing always two or

three days reſpite between each draught, keeping him to an open diet, with proper exerciſe, till he recovers his uſual vigour.

By this method ſeveral Horſes have been cured that were very much affected in their Heads with convulſive ſymptoms, where the event has ſhewn that this affection was plainly owing to a ſtoppage of the aliment and excrements hindering a proper digeſtion; of which I ſhall mention one inſtance of a Horſe that was ſent home from *Hounſlow-Heath*, when the troops were encamped there. He was ſo much convulſed, that he could neither eat his hay nor corn, and his neck ſo ſtiff that he could not reach to drink. The man that led him was forced to ſtop almoſt every hundred yards, becauſe of the ſtiffneſs of his Limbs, and the ſhortneſs of his Breath, by the ſhutting up of his Mouth. However, when I ſaw him, he did not appear to be near ſo much convulſed as thoſe that have vermin in their Stomachs, or impoſtumations in the inward parts. By working his Mouth I could open it a little way, neither were his Limbs ſo ſtiff nor ſo much contracted. I obſerved him to be very coſtive, for he often made motions to dung, but could not, except two or three little ſmall hard black balls, which ſhewed the neceſſity of opening oily glyſters. He had two every day, at firſt, which brought him to dung pretty freely, and ſoon recovered the uſe of his Jaws, ſo as to eat hay and ſcalded bran. After this he had opening drinks adminiſtered to him, ſuch as the laſt inſerted; and the dung that he voided in a courſe of mild purgation, was in vaſt loads, and muſt have lain a conſiderable time pent up within him, being not unlike what we ſee rotting in a dunghill, both in ſmell, colour, and conſiſtence; and when this load was once diſcharged, he ſoon recovered, and without the help of other means.

A very remarkable caſe of an extreme plenitude and fulneſs of the Stomach and Guts of a Horſe, that proved mortal.

I ſhall conclude with a very extraordinary caſe of this nature, that proved mortal. It was of a Horſe belonging to the ſecond troop of Grenadiers, at graſs, about three miles from town, along with ſome others of the ſame troop. He was obſerved to lag behind his companions, by himſelf, for ſeveral days, which always denotes ſickneſs and diſorder; for a Horſe that is in health, tho' he may ſometimes ſtray by himſelf, yet he will not continue long from his company. But this was not much obſerved by the guard who looked after the Horſes, till he was ſcarce able to move at all, otherwiſe his death might have probably been prevented. He was ſo extremely oppreſſed, that ſeveral men had much ado to get him to town, and were obliged to ſupport him all the way to keep him from falling. His Eyes were ſo ſet in his Head, that he took not the leaſt notice of any thing that came near him, but appeared the ſame as if he had been already dead,

dead, and with every motion he reeled and bore forwards, ready to tumble on his Noſe, if he had not been held up. His Legs were ſtretched out and ſtiff, without the leaſt uſe of his Joints, and by their coldneſs ſhewed the Blood to be altogether come to a ſtagnation in thoſe parts. So that in a few hours after his coming to the troop ſtables, he dropped down dead as a ſtone, without the leaſt ſtruggle.

I was greatly ſurpriſed when I ſaw this Horſe opened, to find his Stomach and all his Guts, both large and ſmall, filled and crammed to ſuch a degree, that it would have been impoſſible, by any means whatever, to have procured the leaſt vent. For all the aliment that was in his Stomach, and the dung in the inteſtinal tube, from one end to the other, was entirely dry, and without moiſture; and before they were ripped open, appeared as hard and full crammed as a *Bolognia* ſauſage, without the leaſt yielding or ſoftneſs in any part. The matter contained in them was no leſs extraordinary; the Stomach being filled with acorns, ſloes, oak-leaves, and ſuch other things as he could pick up about the hedges, ſome green and ſome withered; for it was now towards the latter part of the year. The contents of the Guts were chiefly leaves, neither well chewed nor digeſted, with a mixture of graſs; but there was little or no graſs in his Stomach, but chiefly acorn-cups and leaves, which was diſtended to its utmoſt extent, ſo as to keep the Muſcles at their full ſtretch; by which their action, which is neceſſary in digeſtion, was altogether at a ſtand.

I am apt to imagine that this Horſe, who was upon a very rank aftermaſh, had been ſo ſurfeited that he came to loath his graſs, and his appetite being depraved, had taken to thoſe things that were acid and ſour to the taſte, which muſt have greatly aggravated his diſtemper by their reſtringent and binding quality. I rubbed the contents, both of his Stomach and Guts, between my hands, which crumbled like dung dried in the ſun, without the leaſt drop of moiſture or any ill ſavour; for there was no room for air to be pent up in them, wherein is the ſtench, chiefly, that is felt in opening the inteſtines of dead animals; and indeed, it was ſomewhat extraordinary that he lived to come to this extremity, where the muſcular action of the Stomach, and the periſtaltick or vermicular motion of the Guts, by which the expulſion of the excrements is forwarded, muſt in all probability have been loſt for ſeveral days. I can aſſign no other reaſon for his holding out ſo long, but that he was in all reſpects extremely ſound, and little elſe to be ſeen but a beginning inflammation in ſome of his internal parts; which, conſidering how unmercifully he was crammed, could not be otherwiſe expected.

This happened about 17 years ago in a very wet ſeaſon, when the Horſes were ſo clogged that many of them began to fall off their fleſh before they were taken up.

We

We meet with ſome inſtances among men of voracious appetites, that have died ſuddenly after an exceſſive meal, by filling their Stomachs to ſuch a degree, that the ſtrongeſt emeticks could have no effect upon them. But theſe inſtances in men are not very frequent; for if a man's Stomach is not filled too ſuddenly to its full extent, (which has ſometimes happened to thoſe who have brutiſhly eat for a wager) he will go nigh to vomit of himſelf, and ſo get rid of his enemy. But an exceſſive fulneſs of the Stomach and Guts muſt always create great diſorders in a Horſe, who has no natural diſpoſition to vomit; ſo that all poſſible means muſt be uſed to preſerve the paſſages downwards free and open, according to the method above preſcribed, *viz.* by glyſters, lenitive purges, and an opening diet, that being all the chance he can have for his life, in ſuch circumſtances.

CHAP. III.

Of the Diſeaſes of the Eyes.

THE diſeaſes that affect the Eyes of Horſes are neither ſo numerous nor ſo much complicated, as thoſe that affect the human Eye, tho' Horſes are much more apt to go blind than men, when once diſorders happen in their Eyes, unleſs they be ſpeedily removed; the reaſon of which will, in ſome meaſure, be accounted for, in the proſecution of this ſubject.

The ancients were wont to reckon up a great many diſeaſes in the human Eye, by giving names to almoſt every accident or blemiſh that happened on any part thereof, accounting theſe as ſo many diſtinct maladies. And tho' this was indeed an inſtance of their great accuracy and induſtry, yet it has multiplied the diſeaſes of the Eyes beyond what they really are, and has rendered the ſtudy of thoſe things very difficult, eſpecially to young practitioners and to the unlearned. The *Italians*, *French*, and other foreigners, who in ſome preceding centuries, wrote profeſſedly on the diſeaſes of Horſes, for the inſtruction of the farriers in their times, have very much copied after the antients, by deſcribing almoſt as many diſeaſes in the Eyes of Horſes as the firſt writers in phyſick have deſcribed in the human Eye; and by enumerating a great many names and diſtinctions in different ſpecies, or rather appearances of the ſame diſeaſe, have led their followers into a great deal of perplexity, by treating ſymptoms, in many caſes, as original maladies.

The Antients very circumſtantial in deſcribing thediſeaſes oftheEye.

It

It is true, Horſes have ſeveral of the ſame diſeaſes happen to their Eyes that are incident to men, and ought to be treated nearly in the ſame manner; but as their food is more ſimple, and as they are not liable to fall into intemperance, ſo there is ſome difference alſo in theſe maladies; and I have ſeldom met with any ſuch thing as a ſtrumous or ſcrophulous ſore or ulcer, or in other words, any appearance of what we call the evil in the Eye of a Horſe, or of any ſymptom derived from a ſcrophulous Blood: But moſt of the maladies that affect their Eyes, proceed either from external accidents, as blows, wounds, and contuſions; or from internal cauſes, as fevers, ſurfeits, and ſuch like; or from a natural weakneſs, and ill conformation of the Eyes, which I have reaſon to believe is often hereditary, and therefore the moſt difficult to cure.

Blows and Contuſions on the Eyes.

Horses frequently meet with blows and contuſions on their Eyes, which are more or leſs hurtful in proportion to their degree; for a ſlight blow, or a ſlight bruiſe, or a bite of another Horſe, tho' at firſt painful, and apt to make the Eye ſwell and run down with water, yet ſuch are often cured only by bathing the Eye with cold ſpring water, which repels and hinders a flux of humours falling upon it. But if the Eye be any ways inflamed and ſwoln, it will be neceſſary to bleed directly, and to apply ſome cooling Cataplaſm to the Eye, ſuch as are made of the pulps of roaſted or boiled aples, cleared from their huſks and ſeeds, or Conſerve of Red Roſes, ſpread on a doubled linen cloth, and bound gently over the whole Eye; or a pledgit ſpread with Alum curd, applied in the ſame manner, and renewed as often as it turns dry. I ſeldom uſe any other thing in ſuch caſes, beſides a tincture made with Red Roſes and a few grains of Sugar of Lead, in the following manner.

Take two drams of Red Roſe Buds, either freſh or dried; infuſe them in half a pint of boiling Water, in the manner of making Tea; when it has ſtood to be cold, pour off the infuſion, which will be of a reddiſh colour, and add to it a ſcruple, which is twenty grains, of Sugar of Lead.

The Sugar or Salt of Lead will make the Roſe Tincture of a muddy green colour, when it is ſhook. The beſt way to uſe it is thus; bathe the

Horſe's

Horſe's Eye and Eye-Lids all over, with a bit of clean ſpunge or clean rag dipped in it, three or four times a day; and it will ſeldom fail to make a cure in a ſhort time of any blow or bruiſe on the Eye that has no uncommon ſymptoms, or where the Eyes are not naturally weak or previouſly diſeaſed. The Roſe Tincture is a good reſtringent and ſtrengthener, and the Sugar of Lead being a ſalt made of Lead, with diſtilled vinegar, is intenſly cooling, and prevents any immoderate flux falling upon the Eye, which ought to be chiefly regarded in all ſuch caſes.

The ſymptoms of blows, &c. in their different degrees.

SOMETIMES, when the blow hits directly the middle and moſt prominent part of the Eye, the Eye-Ball turns white, and this whiteneſs is of different degrees, according as the injury received happens to be more or leſs violent. Sometimes the pupil or ſight, the *Cornea*, and all that is uſually clear and pellucid, becomes the exact colour of a pearl; and where the ſtroke has been more violent, the Eye will appear more white and opaque, reſembling the white of an egg when boiled. In the firſt caſe, when the whiteneſs is only of a pearl colour, the Horſe has uſually ſome glimmering of light; in the latter he is quite blind, while his Eye continues in that ſtate. This whiteneſs proceeds from a ſtagnation of the juices of the *Cornea* or horny coat of the Eye, which juices, in their natural ſtate, are clear like water, and may poſſibly turn white when they happen to be heated and inflamed, as the Blood in the fleſhy parts, from a blow or contuſion, firſt appears, with a ſettled redneſs, and then turns black. I have frequently ſeen the Eye all over white with a blow, without ſo much as a weeping, or the leaſt appearance of weakneſs, the Horſe never offering to ſhut the blemiſhed Eye more than the other; and in this caſe the Eye has been cured in a few days, only with bleeding and the uſe of the above inſerted Eye Water.

BUT when a blow happens to be given with great force, the Eye will not only turn white, but the *Tunica adnata*, its uppermoſt coat, which anſwers to the white of the human Eye, will be alſo viſibly inflamed; tho' in a Horſe it is very much ſtreaked with brown, that coat being full of little ſmall twigs of arteries and veins, which upon any hurt or weakneſs become turgid, and are the cauſe of redneſs, heat, and pain. I have ſeen a Horſe's Eye, by a violent blow, or from the bite of another Horſe, look like a white ſtone ſet in a cornelian. In this caſe the Eye is generally ſhut up till the inflammation is abated, and the inflamed part grows yellow, as almoſt all inflammations do in their going off, and then we often ſee a white bliſter on the *Cornea* ſometimes the bigneſs of a grape; and this always proves a great relief, and when it breaks, ſoon it accelerates the cure.

But when it happens to be ſeated deep in the *Cornea*, with a mixture of redneſs, it is apt to leave a little ſcar, ſometimes the ſize of a barley corn, ſometimes no bigger than a lentil, and often, with good management, ſo ſmall and thin that it is ſcarce to be perceived, unleſs a perſon come quite cloſe to the Eye. I have had many of theſe accidents under my care, and never knew any of them do amiſs where the Eyes were naturally good, and that the Horſe had not been firſt tampered with before I was ſent for. I have been concerned with ſome where the Eye has been ſo much ſwoln and raiſed out of its ſocket, that the Eye-Lids could not be cloſed till it was reduced by the help of proper applications; and yet the cure has been compleated in a ſhort time, without the leaſt blemiſh or defect.

The cure of blows and contuſions, &c.

The right way to manage all theſe diſorders, is by treating them with milder or more powerful applications, according as the ſymptoms are more or leſs aggravated. If the Horſe be loaded with fleſh, or of a groſs conſtitution, evacuations by bleeding and an opening diet will be the more neceſſary, and in ſome caſes rowelling. If the Eye be only turned white, and continues dry, without moiſture, and the Horſe keeps it open, nothing further will be required after bleeding, but to be bathed with ſome cooling eye water, ſuch as has been directed, with a ſoft diet of ſcalded bran for a few days, avoiding any thing that is hard to chew, as oats and beans. But if a defluction attends, and the under ſide of the Eye be inflamed, the Eye-Lids ſwelled and moiſt, and if the Horſe by reaſon of the anguiſh keeps it ſhut, it will be proper in this caſe to uſe a digeſtive in the following manner.

Take of the Tincture of Roſes, as above directed, four ounces; while it is warm diſſolve in it an ounce of Honey, and thirty grains of Sugar of Lead; ſhake the vial and bathe the Horſe's Eye all over: Or it may be made thus, *viz.* Roſe Water, three ounces; Honey of Roſes, one ounce; Sugar of Lead, thirty grains.

If the Eye be moiſt and watry, a ſpoonful or two of red wine may be added, which will help to recover the tone of the Eye, thicken the matter that runs from it, and ſoon dry it up; and when once the Eye is dry and has gathered ſtrength, that the Horſe opens it freely of his own accord, if a bliſter or any blemiſh then remains on the *Cornea*, or any kind of foreneſs, it will be proper to ſharpen this medicine, by diſſolving a dram of white Vitriol in a little water, about a ſpoonful or two, and adding it to the

whole quantity of the abovementioned eye water, or elſe to blow a little Vitriol and Sugar Candy into the Eye thus, *viz.*

Take white Vitriol, one dram; white Sugar Candy, half an ounce; grind them very fine in a marble or glaſs mortar, and blow a little of it into the Horſe's Eye once a day, through a clean tobacco pipe, or put a little into a corner between the Eye-Lids, with your finger and thumb.

If this does not take ſufficient effect, make the powder with white vitriol and the fineſt loaf ſugar, of each equal parts, and uſe it as the other, once a day, and the laſt mentioned eye water twice a day, *viz.* night and morning. But if the Eye begins to clear, and looks of a ſky colour, it will be ſufficient to uſe the eye-water alone, once a day, until it is quite tranſparent and clear.

But if after the Eye is grown ſtrong, freed from all heat and inflammation, and can bear the light, there ſtill remains a kind of ſcurf or ſcab over the pupil, or any part of the *Cornea* near it, raiſed in the middle dark yellow or browniſh, and with whitiſh rays towards its edges, where this happens, the *Cornea* for the moſt part has been wounded, and is common when a Horſe has had his Eye bit by another Horſe; and tho' this little tumor may not diſappear ſo ſoon as we could wiſh, yet where the Eye is naturally good, it will often wear off by degrees, and leaves no blemiſh, unleſs it be ſeated deep in the *Cornea*; and when any blemiſh remains, it is for the moſt part owing to ſome miſmanagement, eſpecially by uſing applications that are too harſh for ſo tender a part, before the pain and anguiſh is removed; for the Eye is ſo delicate, that when the hurt is newly received, it is ſcarce able to indure the common eye-waters, made with a ſolution of *Tutty*, the *Lapis Mirabilis*, or *Lapis Medicamentioſus*, or any other that have earthy or metallick ſubſtances in their compoſition, much leſs powder of flints, egg-ſhells, or ſcuttle-bone, which ſome perſons unwarily uſe. For I have obſerved upon the fulleſt trials made of theſe things, that nothing agrees ſo well with the Eyes of Horſes, as tinctures made of proper vegetables, or ſalts that will diſſolve in water. Theſe ſeem to be the moſt familiar and ſuitable to the Eyes, that are naturally humid and moiſt. I have uſed ſolutions of all the vitriols and other ſalts, and often with good ſucceſs, but never with any hurt or injury to the Eye, when they are finely ſettled and cleared from their droſſy parts and properly applied.

Wounds of the Eyes.

WOUNDS of the Eyes are often dangerous and ſometimes mortal, when they penetrate through the bottom of the orbit, where the branches of the optic Nerves paſs from the cerebellum; but if the wound be not deep, though it paſs through ſome of the coats and humours, it may be cured with proper care; and I have known theſe cures made in a much ſhorter time than one would eaſily imagine. But if a wound penetrate through the *Retina*, which is compoſed of the optic Nerve, and many ſmall twigs of Veins and Arteries, it will readily intail blindneſs, and perhaps convulſions and other diſorders. The ſame may alſo happen when any part of the Bones that compoſe the orbit or ſocket, in which the Eye is placed, are depreſſed or broken into ſplinters, and ſtuck into the tender Membranes, and other ſenſible parts.

THE Eyes may be wounded in the ſame manner as the other parts of the Body, viz. by inciſion or puncture, and we find theſe alſo complicated with contuſion and fracture of the Bones of the orbit, and often with laceration or tearing of the Eye-lids, and the circumambient Parts of the Eye-brows and Temples, which frequently happens from violent bites, and other accidents, and the method of cure, as to generals, is very near the ſame as in all other wounds. But in regard of the extreme tenderneſs of the Eye, ſome particular cautions are neceſſary to be obſerved, as bleeding even though the wound be but ſmall, becauſe the leaſt irritation will eaſily bring a defluction into the Eye, which ought by all poſſible means to be removed. The poſition of a Horſe's Head, and the contortion of his neck, contributes alſo to render the cure more difficult; and therefore all the methods of revulſion are proper, as rowelling under the Jaws, the Breaſt or Belly, eſpeciallywhen the Eye is much ſwolen and inflamed, as has been already recommended, in the caſe of blows and contuſions: As for rowels in the Neck, I cannot ſay I ever ſaw them do much ſervice to Horſes, however uſeful ſeatons and other iſſues on the neck and ſhoulders may be to men in the like caſes. As they are apt to be painful in the Neck in the manner farriers put them in, they make a Horſe reſtleſs and uneaſy, and often prove a great injury to the Eyes, which require all the calmneſs and ſteadineſs imaginable, until ſuch time as the heat, pain, and inflammation is gone off, or very much abated.

The Cure of wounds in the Eyes.

Neceſſary cautions to be obſerved.

ANOTHER caution is neceſſary in curing wounds of the Eyes, that no harſh application be made, while the pain and inflammation remains, and even not

when theſe ſymptoms are gone off, if milder methods will do the buſineſs. Care muſt alſo be taken to keep the Horſe low in his diet, eſpecially while he is unfit for any other exerciſe, beſides walking in the ſhade; and his diet ſhould alſo be opening, as above directed; and if it be the graſs ſeaſon, cut graſs or any kind of green herbage cannot be improper.

The Eye-lids, how to be ſtitched when cut.

ALL imaginable methods ought to be taken to keep the wounded Eye cool, by cooling applications, avoiding the uſe of the oil of turpentine, which our farriers are buſy with upon all occaſions. If the Eye-lid is wounded and cut through, and the cut divides it ſo as the lips part one from the other, it ought to have a ſtitch with a ſtreight needle, ſuch as the ſurgeons uſe for ſuperficial wounds, and not to be drawn too cloſe, but juſt ſo far as to bring the edges juſt together; and this is yet the more neceſſary when the Eye-ball happens to be wounded through the Eye-lid, that there may be room for the diſcharge of the matter. I have obſerved that the Eye-lid requires but one ſtitch, for when there are more, and theſe purſed together, as the farriers generally do, and the lips drawn cloſe, ſuch ſtitches will break in twenty-four hours, and leave the wound in a worſe condition than it was at firſt.

THE proper dreſſing for wounds of the Eye, is honey of roſes and tincture of myrrh, viz. one dram of the tincture to an ounce of the other. The beſt way of uſing it is to dip a pledgit of lint in this mixture, made warm, and applied to the wound, for tow and hurds are too harſh for the Eye. This dreſſing may be repeated once a day, until the wound is healed up and cicatriſed, and it will ſeldom fail of ſucceſs if no uncommon ſymptom appears, as ſwelling pain and inflammation, or a fracture of the bones that compoſe the orbit or ſocket of the Eye. In all which caſes, the following fomentation will be of great ſervice.

TAKE elder-flowers and red-roſes, of each a handful; marſh-mallows, half a handful; ſal-prunelle, half an ounce; ſugar of lead, one dram. Infuſe in a quart of boiling water, and ſtrain the infuſion through a linen cloth, and when it has ſtood to be cold add half a pint of red wine.

THIS fomentation may be uſed in the following manner: Take two thick woollen cloths, or two pieces of ſwanſkin, the breadth of two hands each, ſoak them in the liquor, made pretty hot, but not ſcalding, for the Eye will ſeldom bear any thing that is intenſely hot, as other parts of the body. Wring out one of the cloths, and apply it over the wounded Eye,

and when the firſt begins to cool, wring out the other, and apply them thus alternately, for the ſpace of half an hour; and if the fomentation grows cold in that time, let it be heated again over the fire. The Horſe may have his Eye fomented in this manner twice a-day, or oftner; and the quantity preſcribed will laſt forty-eight hours with good management.

When the ſhooting pain abates, which in ſome meaſure may be judged of by the ſinking of the ſwelling, the digeſtion of the wound, its diſcharging good matter, and the chearfulneſs of the Horſe's looks, the uſe of the hot ſtuphs may be laid aſide, and only the dreſſing continued, as above directed, till the wound is healed.

The Cure when the Orbit Bones are broke.

If any part of the Orbit Bones be broke, and feel looſe, the cure will be retarded till the broken parts are ſeparated and caſt off, during which time, it will be proper to dreſs with tincture of myrrh, or tincture of myrrh and the tincture of euphorbium mixed together; for nothing agrees with the Bones but cleanſing tinctures and other ſpirituous applications.

I have known ſome inſtances, where the Bones round the Eye were broke; and in one particularly, part of the Orbit that forms the Eyebrow was ſo depreſſed, and drove down ſo hard upon the Ball of the Eye, that no means the farriers could uſe were able to raiſe it, ſo as to give him any eaſe, which ſoon cauſed ſuch violent convulſions, as brought him to his end. Another accident of the ſame kind, happened many years ago, to a Troop-Horſe, that fell down in a hard party, and hit his Eyebrow againſt a large pebble that lay on the road, whereby a piece of the upper part of the Orbit was fractured, and depreſſed into the great hollow above the Eye. A country farrier had induſtriouſly ſtitched the wound with ſeveral ſtitches, overcaſt, and filled it with doſils of tow, which put the Horſe in ſuch violent pain, that he forſook all manner of food, until the ſtitches were cut and the doſils taken out. After this I cauſed him to be dreſſed with a digeſtive of common turpentine, made very thin with the yolks of eggs and tincture of myrrh, till the fractured Bones looſened, and grew bare in ſome places, after which I ordered pledgits dipped in tincture of euphorbium to be laid next the Bone, and the other common dreſſing over it; I alſo cauſed the Horſe to be bled, which had been omitted by the farrier who firſt dreſſed his wound, for his Eye was very much inflamed and ſwoln, and when the wound began to digeſt, there run a thick matter in very great plenty from the Eye as well as from the wound. The Eye was only dreſſed with tincture of roſes and ſugar of lead, which agreed perfectly well with it. This and the great diſcharge from the

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wound ſoon gave relief, that the ſwelling ſubſided, and the Horſe opened his Eye, which was no ways blemiſhed nor his ſight impaired.

In the proceſs of the cure two pieces of the Bone of the upper part of the Orbit, that forms the Eyebrow that had been depreſſed into the hollow above the Eye, ſeparated and came quite off; one was about an inch and a quarter long, and an inch the broadeſt part, and about a quarter of an inch thick. The other was ſmaller, and both jagged and ſpungy on their under ſide, with little holes and ſinnoſities for containing the medullary ſubſtance; but after the cure, the blemiſh was ſo ſmall as ſcarce to be obſerved, but by thoſe who knew the accident. And indeed this good ſucceſs was in a great meaſure owing to gentle uſage, in forbearing to make inciſions, and not endeavouring to force the fractured pieces out before nature had formed a new ſubſtance to ſupply the defects, which I found by my finger to be very ſmooth and even. The cure was compleated in two months, and the Horſe continued in the troop afterwards many years, and did all manner of duty till he was very old.

Punctured Wounds in the Eye, how to be managed.

Sometimes alſo Horſes meet with punctured wounds in their Eyes, viz. when ſome ſharp-pointed thing has run into the Eye-ball. Theſe wounds come chiefly by thorns, in paſſing through thickets or hedges, or by forks in the hands of barbarous or careleſs perſons, eſpecially when the forks are new, before their points are worn ſmooth and blunt, of which kind I have ſeen ſeveral, where the *Cornea* has been pierced, and the watery humour run out, but when the inſtrument paſſes no farther the damage often proves ſmall. The eye ſinks at firſt, and looks ſtrangely, but uſually recovers again in a few days, eſpecially when care is taken to apply nothing to the wounded Eye that may cauſe inflammation. I never found any thing better to uſe in this caſe, than tincture of roſes with honey, or honey of roſes, either alone or with ſugar of lead. The juice of eyebright, or the juice of celandine, are alſo of uſe to help to wear out the ſcars which punctured wounds are apt to leave on the *Cornea*. But when the criſtaline humour is wounded, or if the puncture be large, and the wound ragged, and has torn or broken any part of the *Iris* or *Ligamentum Ciliare*, or touched the *Retina*; the Horſe may, in ſuch circumſtances, not only have his Eye much blemiſhed, but the iſſue may be incurable blindneſs.

I had once a troop Horſe under my care, whoſe caſe, in a great meaſure, illuſtrates what has been here taken notice of, concerning punctures in the Eyes of Horſes: This Horſe had the point of a fork puſhed into his Eye, as he was running eagerly up to his rack, while his feeder was putting down his hay with a fork, which happened to be new and very ſharp at the points.

points. There was a ſmall hole made by this puncture on the under Side of the Pupil through the *Cornea*; ſo that the watery humour burſt forth and run down his Cheek, accompanied with ſome few drops of Blood, by which his Eye became quite flat and ſunk within its Orbit. He was preſently bled, and afterwards was dreſſed only with tincture of roſes and honey, put warm into his Eye, twice a day, by which he was cured in leſs than a fortnight, without any other blemiſh than a little crooked line, about a quarter of an inch long, and ſo faint, that it could hardly be diſcerned without coming cloſe to the Eye. The wounded Eye was as full as the other, neither could we perceive his Sight to be any ways defective.

About two years after this, the ſame Horſe had the misfortune to meet with the like accident in the ſame Eye, by a fork, as was imagined, run into it, the ſecond time, through the rack ſtaves, by which it was irrecoverably loſt. The hole was ſo large, that I could eaſily put the end of my little finger into it. At firſt his Eye was, for the moſt part ſhut, and had a continual running for ſeveral days of bloody water, during which time pledgits were ſpread with conſerve of roſes, and applied to the Eye, and over that dreſſing a cold charge made of bole vinegar and whites of eggs, with a mixture of wine lees. This was laid over one ſide of the Forehead, and along the Temple and Cheek, and towards his Noſe on the ſame ſide, to hinder, as much as poſſible, a greater fluxion upon the Eye. When the wound began to digeſt, it run like a rowel, but in ſo great a quantity, that notwithſtanding all endeavours were uſed to abate that ſymptom, with proper evacuations, yet the diſcharge never ceaſed, till almoſt the whole ſubſtance of the Eye was entirely diſſolved, and turned to matter, by which means the Eye periſhed, and was ſo waſted as to cauſe a very great deformity, which could by no means be avoided; though in all other reſpects, the Horſe continued perfectly well and fit for his duty.

Lunatick or Moon-Eyes, and alſo of Cataracts.

I HAVE, in conformity to cuſtom, made uſe of the common appellation of Lunatick or Moon-Eyes, though the ſymptoms here deſcribed, are no other than the fore-runners of cataracts, and generally end in blindneſs. Signior *Ruini*, and moſt other foreign writers, both *French* and *Italians*, in treating the diſeaſes of Horſes, have all of them reckoned the Moon-blind ſymptoms, as a peculiar diſeaſe of the Eyes, without having any relation to a cataract, which they have conſidered apart, as another diſeaſe of the

the Eyes, which ſhews they built more on books than experience. But from many years obſervation, I do not remember I have ever ſeen a cataract bred in the Eyes of any other Horſes, but thoſe that have been called Lunatick or Moon-blind. The *Arabians* were the firſt that aſcribed ſo much to the moon in the diſeaſes of the human body; and after the decay of learning all over *Europe*, their ſuperſtitious notions were ſo firmly riveted, and ſo univerſally prevailed, that they could not be eaſily exploded, even by the ableſt phyſicians, till the modern diſcoveries in natural knowledge made way for more ſolid improvements in the medicinal art; and therefore it is no wonder, that the firſt writers on the ſubject of farriery (notwithſtanding ſome of them were men of learning) ſhould fall in with all the common ſuperſtitions that had ſo long prevailed, and had ſo great an influence on the practice of phyſick.

How this diſtemper is deſcribed by Writers.

THESE writers have deſcribed this diſtemper, as appearing at certain times of the moon, coming ſometimes at the new moon, ſometimes at the full, at other times in the wane of the moon; that it ſometimes returns once in three months, and ſometimes once in two months, and in ſome not above once in ſix months; that the Eyes look ſo clear when the diſtemper abates, that it is impoſſible to ſee any imperfection in them. But theſe obſervations are very liable to exception, for any one that has the leaſt knowledge of the Eyes, muſt needs ſee, that when the diſtemper is the moſt abated, and the Eye the moſt clear, it ſtill ſhews a remarkable weakneſs, and upon full trial, the ſight will be found defective. Neither could I perceive that the Eyes were affected by any of the moon's periods, ſo as not to vary, unleſs by meer accident. And therefore, theſe obſervations are neither of great uſe to the knowledge of the diſtemper, nor to lead us into a right method of curing it when it happens.

It is generally the forerunner of Cataracts.

I HAVE already taken notice, that the ſymptoms, which appear in the Moon-eyed Horſes, are, for the moſt part, no other than the prognoſticks of breeding cataracts. Theſe ſymptoms generally make their firſt appearance, when a Horſe is turned five, coming ſix, at which time one Eye becomes clouded, and the Eye-lids ſwoln, and very often ſhut up; and for the moſt part, a thin viſcid water runs from the diſeaſed Eye, down the Cheek, which is generally more or leſs in proportion, as the Eye and Eye-lids happen to be more or leſs ſwelled and inflamed; and in ſome conſtitutions, the Inflammation is ſo great, and the humour ſo ſharp and corroſive, that it ſcalds and fetches off the Hair, wherever it comes. The Veins of the Temples, and under the Eye, along the ſide of the Noſe,

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are alſo turgid and full; others run but little, and the humour not very ſharp.

This diſorder is apt to come and go, till the cataracts are perfect and ripe, and then all pain and anguiſh, and the ſoreneſs and running of the Eyes goes off with blindneſs, when the Horſe is between ſeven and eight years old, this being about the time when moſt Horſes are ſpread and come to their full growth; ſo that from its firſt appearance to its completion, is generally about two years, or two years and an half, during which time, ſome Horſes have the returns of the diſorder, not only more frequent than others, but the ſymptoms more ſtrong and violent. In ſome the Eye is not much diſturbed above a week, when it clears up again and returns to its former ſtate. In ſome Horſes, the Eye continues bad a fortnight, or three weeks, in others a month or longer, before the diſorder goes off; and the time of the return, ſo far as I could obſerve in many Horſes, was always uncertain, and could not be fixed to any period of the moon, as many have imagined, being ſometimes ſooner, ſometimes later, according to its predominancy, or according to the treatment a Horſe meets with from his farrier and keeper. Some have their returns once within the ſpace of two or three months; ſome within the ſpace of four, and with the greateſt care and pains, the diſorder ſeldom keeps off above five months without a relapſe.

This is uſually the caſe of thoſe moon-blind Horſes, that have their Eyes ſtrongly infeſted with a hot ſharp humour, that ſhuts them up with ſwelling and inflammation. But there is another kind of moon-blindneſs, which is alſo the fore-runner of cataracts, where no humour or weeping attends the Eye. It is never ſhut up or cloſed, as in the caſe above deſcribed, but will now and then look thick and troubled, at which times the Horſe ſees little, and perhaps nothing diſtinctly. Here the Eyes always appear ſunk and periſhing, though the cataracts do not come ſo ſoon complete, as in thoſe that are full, and where a humour is predominant; nor is it unuſual in this caſe for one Eye to eſcape, whereby a Horſe will retain Sight to guide him, ſo as to render him fit for common drudgery. I have likewiſe known Horſes breed cataracts, ſometimes in one Eye, ſometimes in both, where the ſymptoms have been ſo favourable, as neither to be taken notice of by their owners, nor by others, till the cataracts have been viſible. But upon enquiry, I always found theſe Horſes had been addicted to ſtartle, and much more ſometimes than others; and upon examining the Eyes, obſerved them to be ſunk and in ſome meaſure periſhed.

Some thoughts concerning the cauſe of this diſtemper.

THE cauſes of this diſtemper are various, and when it proceeds from a natural defect in the Eyes, it may, no doubt, be hereditary; but in a Horſe that has naturally good Eyes, and yet turns moon-blind, it is uſually owing to ſickneſs, or ſome other malady, that has terminated in the Eyes, which ſometimes happens; but we ſeldom ſee Horſes turn moon-blind and breed cataracts, but where the Eyes are naturally in fault. Theſe Eyes are for the moſt part faulty, that are very large and prominent, or very flat, ſmall and ſunk; both which defects in the Eyes of Horſes are liable to blindneſs, though they differ in their manner; and therefore Colts, that have large Eyes, that run abroad, and always feed with their Heads downwards, continually expoſed to the ſun in hot weather, may eaſily contract an habitual weakneſs in their Eyes, eſpecially as the blood and juices of all young animals are naturally of a viſcid and balſamick conſexture, and ſo may be the more eaſily retarded in the veſſels of the Eyes, which are exquiſitely fine. Theſe things produce weakneſs and relaxation in the Eyes, and this ſtill encreaſes ſo long as the Blood is in that ſtate, which we may reaſonably ſuppoſe to continue till a Horſe has done ſpreading, and turned ſeven, for then the cataracts generally grow complete. On the other hand, when the Eyes are flat, and lye deep within their Orbits, the ſurface of the Eye being alſo fattiſh, the rays of light falling directly upon the pupil, and theſe not being ſufficiently refracted, as on thoſe Eyes that are more convex, or in other words, on Eyes of a rounder make, muſt needs weaken the Eye, affect the Optick Nerves, and conſequently weaken the tone of the Muſcles; and with the cataracts alſo induce the ſymptoms of a *Gutta Secreta*, and this may be the reaſon why the Eyes periſh and decay while the cataracts are growing.

Sickneſs in Horſes ſometimes the cauſe of Blindneſs.

OTHER cauſes of cataracts and moon-blindneſs, are fevers, ſome of which remarkably affect the Eyes, eſpecially thoſe of the bilious kind, when the Eyes ſwell and turn yellow, and that ſymptom not carefully attended to in the cure. Sometimes inveterate colds, with a catarrh, will alſo affect the Eyes, and ſhut them up for ſeveral days, and thereby induce weakneſs, which frequently ends in cataracts. The ſtrangles when imperfect, when they are opened and the matter let out before they come to maturity, or when the humour is repelled by improper applications, or other ill uſage, will alſo cauſe a weakneſs in the Eyes, and produce the ſame effect. Sometimes alſo the Eyes of Colts and young Horſes are affected, and turn moon blind in breeding their teeth. Horſes that peel about their Heads ſpring and fall, if the humour chances to be ſuddenly repelled, it is apt to fall upon their Eyes and turn them moon-blind. But in all caſes of

moon-

moon blindneſs, it is not improbable there may be ſuch a conformation of the Eyes of ſome Horſes, as may render the ſame accidents dangerous to them that would not be ſo to others.

The ſigns. THE ſigns of this diſtemper may, in ſome meaſure, be deduced from what has been already taken notice of in its deſcription, *viz.* ſwelling and inflammation of the Eyes alternately, ſometimes one Eye, ſometimes the other, with a running of a thin watery ſerum, which is often ſo hot and ſcalding, as to fret off the hair. In others the Eyes run but little, and ſome not at all, but look deadiſh, ſunk, and periſhing. In all moon-blind Horſes the Eyes are ſometimes tolerably clear, at other times thick and muddy, of a wheyiſh colour, or a duſky yellow; and when this happens, a moon-blind Horſe ſees very little, and when he is brought out into the light, he takes little notice of any perſon or object that is near him, but always looks upwards, with his Head raiſed, lifts his feet high, and ſets them down with fear. Tho' in this diſtemper the humour ſhifts from one Eye to another by turns, and at ſome intervals ſeems to go off, yet when their Eyes are at their beſt, they look weak and with a deadneſs, and when any ſuch Horſe has his Head held up, the weakneſs of the Muſcles and the whole Eye is eaſily perceived.

Prognoſticks. WHEN this diſtemper happens to Horſes that have large full Eyes, reſembling thoſe of a calf, and when the humour continues by long periods, and the returns frequent, there is great danger of blindneſs. If the Eyes be of a moderate ſize, well formed, and the periods or returns of the diſtemper ſhort. If the Horſe ſees perfectly when the humour goes off, and the Eyes in thoſe intervals look clear, the Horſe may recover. When the humour attacks one Eye, without changing to the other, there is alſo hopes of a cure, at leaſt, of ſaving one Eye. But when the Eyes look flat and depreſſed, and decay gradually, it is generally the forerunner of blindneſs; for in this caſe the Nerves and Muſcles of the Eyes are affected, and the cataracts always grow in the progreſs of the diſtemper, which ſeems to be complicated with a *Gutta Serena:* And here alſo, as in the preceding caſe, when the diſtemper ſeizes only one Eye, the other ſometimes may be ſaved, and when this happens, the remaining Eye generally grows ſtronger when its fellow is gone. But when the diſtemper proceeds from a violent cold, as ſometimes happens, whereby we often ſee the Eyes ſwoln and quite ſhut up, tho' the Horſe may be threatned with blindneſs by ſeveral returns, yet by good management it may ſometimes be prevented, and the Eyes recover, and likewiſe when the Eyes are darkened with a yellow cloud, the diſtemper does not always prove incurable, provided the

Eye is not naturally bad, and this ſymptom of long continuance. In all caſes of moon blindneſs, the moſt promiſing ſigns of a recovery are when the attacks come more ſeldom, and their continuance grows ſhorter: When the inflammation and ſwelling in thoſe Eyes that are naturally full and large, abates. On the other hand, when the Eyes, that look ſunk and periſhing grow more plump and full; and when in either, the *Cornea* looks clear and tranſparent, without muddineſs, and the Horſe looks more attentive to his way, and goes on without much fear or ſtartling; all theſe are promiſing ſigns, and with good and careful management he may recover.

The Cure. I ſhall now proceed to the moſt difficult part, *viz.* the cure, for few moon blind Horſes eſcape, and when it is hereditary, when the Eyes are naturally defective, I ſhould never adviſe any one to be at much expence and trouble to ſave them, for fear he ſhould meet with a diſappointment. Yet we ſometimes ſee moon-blind Horſes, or at leaſt that have many of the ſame ſymptoms, recover and do well, even beyond expectation.

If the Eyes are large, full, ſwoln, and inflamed, the Horſe ſhould be bled at proper intervals, ſometimes in the Neck, and ſometimes backward, to make revulſion. But where the Eyes appear ſunk and periſhing, bleeding is often pernicious. After bleeding, for thoſe that are full and run a thin ſharp water, make a ſtrong tincture of Roſes, as has been directed above, *viz.* Take four ounces of this tincture, diſſolve in it half a dram of Sugar of Lead, and waſh the Horſe's Eyes, and all over his Eye-Lids, with a piece of ſpunge or a clean rag, twice a day. If the matter digeſt and thicken, which uſually happens before it abates, add to the whole quantity of this tincture, about two drams of Honey, which will diſſolve by holding the phial near the fire and ſhaking it, and uſe it as the before. At the ſame time, if the parts near the Eye be hot, and the Veins over the Face, and along the ſide of his Noſe, be turgid and full, bathe thoſe parts frequently with the beſt Vinegar Verjuice or Vinegar of Roſes, till the heat and running of the Eye abates, and the Veins ſink and grow leſs apparent, and alſo till the Eye begins to look clear, in the mean time ſome few lenient mild purges may be adminiſtered, as the following.

Proper ſcourings for moon blind Horſes. Take Lenitive Electuary and Cream of Tartar, of each four ounces; Syrup of the Juice of Buckthorn Berries, two ounces; mix theſe with white Wine and Water, warm'd, about a pint, and give it faſting: Or this,

Take

Take Lenitive Electuary and Cream of Tartar, of each four ounces, as in the preceding; *Glauber*'s purging Salts, three ounces; the ſolutive Syrup of Roſes, two ounces; to be mixed with white Wine and Water, or with warm Water Gruel.

EITHER of theſe may be given to moon-blind Horſes. The latter is rather the more mild and cooling, and exceeding proper, if the Horſe be fat and full of Blood, and will work ſo gently, that it may be repeated twice a week till the Eye becomes clear and attains it uſual brightneſs.

THE Horſe ſhould have ſome feeds of ſcalded bran while theſe lenitives are given him, and he may have moderate exerciſe, or may be made uſe of in any kind of eaſy buſineſs; for theſe draughts, for the moſt part, work off in about two hours. But as the Blood in all theſe caſes is generally ſizy, and as this diſpoſes young Horſes to frequent returns of the diſtemper, it is therefore neceſſary to adminiſter ſuch things as may attenuate the juices and preſerve them in a more fluid ſtate. Theſe are called alteratives, becauſe their property is gradually to alter the ſtate of the Blood. The following I have often made uſe of, in this and many other caſes, with very great ſucceſs.

A mild purge where the Eyes are weak.

Take the fineſt Succotrine aloes, half an ounce, or ſix drams; Cream of Tartar, half an ounce; freſh Jallap, in fine powder, and Salt of Tartar, of each one dram; make into a ball, with a ſufficient quantity of Oil of Amber, and roll it in Liquorice Powder.

ONE of theſe may be given every week, in the manner of a common purge, with ſcalded bran, and his water milk warm. The firſt day it will work plentifully by urine, and the day following both ways; but no more than juſt to empty his Guts, unleſs when there is a foulneſs by reaſon of a redundant ſlime and greaſe. In which caſe I have often known one of theſe weak purges work powerfully two or three days, without the leaſt diminution of the Horſe's ſtrength, or loſs of fleſh. Theſe alterative purges ſhould be continued for a month or ſix weeks, and after omitting another month to begin again, in all which time the Horſe may be kept in any common buſineſs, except hunting, journey riding, or other very laborious exerciſe.

IN the intervals between the purges, I ſhould chuſe to give him an ounce of crude Antimony every day, made into a fine impalpable powder, in one of his feeds, which may be continued for three months or longer.

But

Alterative powders for the Eyes.

But if the Horſe be of value, inſtead of crude Antimony, he may have powders compounded with native Cinabar, or Cinabar of Antimony and Gum Guiacum, equal parts, giving him an ounce every day, till he has taken two or three pounds, and after an interval of about three months, to proceed in the ſame method till the Eyes look ſtrong and clear, and that the Horſe ſhews no ſigns of blindneſs, or any defect in his ſight or weakneſs in his Eyes. Several gentlemen have by my advice followed this method with good ſucceſs, where the Eyes have been full and no ways periſhed. A pound of Guiacum Wood, boiled in three gallons of water, to two, is a cheap remedy, and may be profitably adminiſtered to Horſes of ſmall value. It promotes perſpiration, dries ſuperfluous humidity, and ſtrengthens the ſolids when relaxed, ſweetens the Blood, and may be given a quart or two every day, in a Horſe's water, and will have a good effect to prevent moon-blindneſs where it is not hereditary, proceeding from a natural defect in the Eye.

Decoctions for the ſame purpoſe.

The Cure when the Eyes are ſunk and periſhing.

But when the Eyes are ſunk and periſhing, and the Eye-brows are pinched at their inner corners, next the noſe; when there is little or no inflammation or running, except a more than ordinary moiſture in the *Caruncle*, or haw of the Eye, or where there is no moiſture at all, as we often find in many moon-blind Horſes: wherever theſe ſymptoms are, a method of cure is required different from the preceding. For as we ſuppoſe here the Nerves of the Eyes to be affected, and the ſupplies of the arterial Blood by that means denied; therefore wherever the fault may be, whether originally in the Blood or in the Nerves, it is neceſſary, in either caſe, to adminiſter ſuch things as not only attenuate the Blood, but may cauſe a greater derivation thereof to the Eye; ſo that the moſt likely way to ſucceed is by the proper uſe of mercurials, and theſe ſuch as are the moſt efficacious, and at the ſame time the moſt ſafe. But firſt of all let the Horſe have the laſt mentioned purge given him by way of preparation, and when the operation is over, which will be mild and gentle, the following ball may ſucceed.

Take *Mercurius Dulcis* that has been often ſublimed and dulcify'd, two drams; make it into a ſmall ball, with a ſufficient quantity of Conſerve of red Roſes and Wheat Flower.

Let this ball be given early in the morning faſting, and tie up the Horſe from eating two or three hours after it, then let him have a feed of ſcalded bran, with warm water or warm gruel to drink, which regimen

cught to be continued ſo long as he is under this courſe of mercurial and purging phyſick; cold wa er or other cold drinkables, being ſomewhat unſafe at ſuch a time. The mercurial ball may be repeated every other day, in the morning, till the Horſe has taken three or four. If his mouth grows tender, which may poſſibly happen, if he be not of a pretty ſtrong conſtitution, he muſt be fed with water-gruel for two or three days, till that ſymptom wears off. At the ſame time the purge may be repeated once or twice, and the following eye-water applied outwardly to both his Eyes, if both be weak and diſordered.

Outward applications for moon eyes that are ſunk, &c.

Take Crude *Sal Armoniack*, cleaned from the black ſcurf that is uſual on the outſide of the cakes, two drams; diſſolve it in a pint of warm Water, or Roſe Tincture; and add to it a gill of Spirit of Wine or the beſt brandy, ſhaking them together in a ſmall quart bottle.

The Eyes may be bathed all over with this mixture, twice a day, or it may be uſed in the manner of a fomentation, by wringing cloths out of it, and applying them warm over the Eyes. This will act as a ſtimulus, and may alſo help to thin and rarify the gummy juices, and bring new ſupplies of nouriſhment to the periſhing Eyes. At firſt it may cauſe a little ſmarting, but after uſing it a day or two that ſymptom goes off, and if the Eyes grow more plump and full, there will be hopes of a recovery, at leaſt of ſaving one Eye; and therefore the beſt way upon this proſpect is to proceed in the ſame method, after a month's interval, and ſo on as you find encouragement; and in all theſe intervals I ſhould recommend the uſe of the above preſcribed powders in the Horſe's feeds, or the decoction of Guiacum in his water, or the decoction may in this caſe be made in the following manner.

Take a pound of Guiacum ſhavings, that are fulleſt of the Gum, which are generally of an olive green colour; boil them in three gallons of clear forge Water to two, and give a quart every day in the Horſe's Water.

If a cloudy yellowneſs appears through the *Cornea*, which is uſual when the diſtemper proceeds from the yellows, half a pound of Turmerick bruiſed, and four ounces of Rhaponticum, with the other things preſcribed for the cure of that diſtemper, may be added. And where the forge water cannot be procured clean, the ſame thing may be effected by quenching

ing hot heaters in the water till it is of a blackiſh colour. Or a pound of old ruſty iron may be boiled in the decoction. The iron will warm and invigorate the Blood, render it more thin and fluid, ſo as it may circulate with more facility and eaſe through the ſmall capillary arteries of the Eyes. Or a pound of crude Antimony may be tied in a bag and boiled in the decoction; either the Iron or Antimony may be of ſervice, where the Eyes are ſunk and periſhing; the firſt from its invigorating warmth, and the latter from its healing ſulphurs, in caſes where the Horſe abounds with ſharp humours, that ſhew themſelves in breakings out about the Head and Neck, which is not unuſual in this kind of moon-blindneſs.

As to the other helps made uſe of in the cure of this diſtemper, we find nothing ſo common as rowelling, and I have often, myſelf, complied with this method, which however I think is of little uſe, but where the Eyes are ſwoln and inflamed. In this caſe I have ſometimes ordered a ſucceſſion of rowels, at the critical returns of the diſtemper, *viz.* under the Jaws, in the Temples, in the Breaſt, and one on either ſide of the Navel, and at the deſire of the owners, and in compliance with cuſtom, I have cauſed rowels to be placed near the Tail, to make revulſion; but in theſe caſes, I have known a running at the Heels do more ſervice than them all, tho' in no reſpect to prevent blindneſs; for as ſoon as theſe drains are dried up, the ſymptoms generally return with greater force than before.

A great miſtake in taking up the Eye-Veins.

Some take up the Eye-Veins to prevent blindneſs, but without diſtinction, whether the Eyes are full with redundant humours, or ſunk and periſhing. In the latter caſe, the taking up the Veins may poſſibly be of ſervice, becauſe by that means the Eyes may be better ſupplied with its proper nutritive juices; but this too is uncertain, becauſe the fault may be in the Nerves, or the diſtemper may proceed from ſome original configuration of the Eye, which may be defective, and then ſuch operations are like to prove fruitleſs. But the taking up the Veins where the Eyes are full, muſt for the moſt part prove hurtful, by cutting off the channels which ſhould convey the blood and juices from thence in the courſe of circulation, and conſequently increaſe the diſtemper inſtead of abating it. In this caſe, the taking up the Arteries might be of ſome ſervice; but I fear ſuch an operation would be too difficult for our farriers to undertake, and in the end might perhaps be uncertain.

The cutting out of the *Haw.*

The cutting out of the Haw is another operation uſually performed on moon-blind Horſes. The Haw is a ſwelling and ſpungineſs of the *Caruncle* or fleſhy ſubſtance in the inner corner of the Eye, next the Noſe, and when this is ſoaked with too much moiſture and humidity, it ſwells

and

and turns ſpungy, ſomewhat reſembling the *Fiſtula Lachrimalis*, or elſe what is called the *Albugo* and *Pterigium*, in the human Eye. The Membrane to which it adheres, alſo grows thick, and ſpreads itſelf ſo as to cover a conſiderable part of the Eye, but ſeldom reaches ſo far as to cover any part of the Pupil. The ligament that runs along the verge of this Membrane becomes, horny or like a *Cartilage*; and when it ariſes to this ſtate it binds and compreſſes the Eye-ball like a hoop, and by its continual preſſure cauſes conſtant pain, and increaſes all thoſe bad ſymptoms that are the fore-runners of blindneſs. Haws grow ſometimes in Eyes that are not naturally bad, after cold and ſurfeits; but moon-blind Horſes indeed are ſeldom without them; and wherever this ſymptom appears, that the Haws grow large and ſpungy, and derive a drain of humours upon the Eye, the operation becomes neceſſary, and is performed by taking hold of the Membrane with a ſmall hook, ſuch as the ſurgeons uſe in their diſſections, and cutting off ſo much of the *Caruncle* as looks moiſt and ſpungy, with part of the Membrane and Griſtle that make a preſſure on the Eye. When this operation is well performed, it does great ſervice, and often recovers Horſes that are not ſubject to Cataracts; and even in this caſe it makes the Eyes look ſomewhat better, and helps to protract the blindneſs, but will not prevent it when it is hereditary. This is an eaſy operation, and what almoſt every farrier pretends to, but the farriers are apt to cut off too much of this ſubſtance, and by that means weaken the Eye, and help on the blindneſs, inſtead of preventing it. The proper application, after cutting out the Haw, is Honey of Roſes, or rather Tincture of Roſes, with a little Honey diſſolved in it. But if the Eye continues ſtill to abound with moiſture, after the Haw is extirpated, and threatens freſh Fungus's, the caſe may be deemed bad; and then it will be neceſſary to blow into it a ſmall quantity of burnt Alum and fine loaf Sugar, equal parts, once or twice a day, or one part of white Vitriol, and two parts of Sugar, and in ſome caſes it may be touched with the blue Vitriol Stone, or the Lunar cauſtick; but theſe violent ſymptoms ſeldom happen, and when they do we may ſuppoſe the Blood to have a very bad diſpoſition; ſo that it will hardly be worth while to attempt a cure, conſidering both the length of time and the uncertainty of ſucceſs.

The Cataracts in moon-blind Horſes deſcribed.

In diſſecting the Eyes of moon-blind Horſes, I have obſerved that their blindneſs generally proceeds from Cataracts, from a diſtemperature of the cryſtaline humour, tho' the other parts of the Eyes are alſo affected, both internally and externally. I have taken notice above, that the inflammation and ſwelling of the Eyes in thoſe that are large and full, is attended

with a rheum which is ſometimes ſo hot that it ſcalds the Cheeks and frets off the hair; yet it may be obſerved, that it never abrades the *Cornea*, nor raiſes little tumours upon it, as the *Opthalmia* and other inflammations of the human Eye, which I imagine to be chiefly owing to the ſhort duration of this ſymptom on the Eyes of moon-blind Horſes. For in the human Eye, the inflammation and weeping in an *Opthalmia* and blood-ſhot Eyes, is often attended with a ſcrophulous diſpoſition, and continues for a long time; but in moon-eyed Horſes being periodical, its continuance is but ſhort, and the running leaves their Eyes as the other ſymptoms abate; ſo that what damage happens to the *Cornea* in ſo ſhort a ſpace is generally repaired before another return of the diſorder; and in that caſe, where the Eyes are dry and periſhing, they are never expoſed to any ſuch accident. This I have mentioned, becauſe the *Cornea* in all moon-blind Horſes, both thoſe that are full eyed and thoſe that are flat and ſunk, for the moſt part appears ſound and tranſparent, after the ſight is quite gone. In the latter, the watry humour appears almoſt totally exhauſted, but in the former, its quantity is rather increaſed, but much more viſcid, glary, and troubled, than in an Eye that is perfectly ſound. In all thoſe Eyes I have examined, the cryſtaline humour had loſt its ſolidity and tranſparency, and a white filamentous thready ſubſtance was derived from ſeveral parts of its ſurface, and hanging down like a fringe made up of fine white threads, filled a good part of the ſpace between it and the *Cornea*, ſo as to obſtruct the rays of light, and cauſe blindneſs. And when we view a Horſe's Eye that is gone blind with a cataract, the cataracts appears through the *Cornea*, like a large pearl in the *Pupilla* or ſight of the Eye. And in thoſe Cataracts that are variegated with brown, black, or greeniſh ſpots, as ſome are, I have obſerved the *Ligamentum Ciliare*, the *Iris*, and ſometimes the *Uvea* affected in the ſame manner as the chryſtaline humour, with little bruſhes or threads of brown, black, or green, mixed with or ſpreading over the cataract of the chryſtaline humour. From all which it appears, that in moon-blindneſs the chryſtaline humour is not the only part affected, but the other humours and coats of the Eye become alſo diſeaſed, and the Muſcles relaxed and weakned, which renders the cure always difficult, and for the moſt part impracticable.

Gutta Serena.

A *Gutta Serena* is that kind of blindneſs where the Eye looks clear and tranſparent, without any viſible blemiſh or defect.

This may proceed from any thing that obſtructs the Blood in the Arteries and other veſſels of the Eyes, cauſing a preſſure on the optick Nerves, which in a *Gutta Serena* are generally found to be periſhed and decayed.

The cauſe is ſometimes from an ill ſtate of the Blood, when it happens to be extremely viſcid, or perhaps when it is poor and vapid, whereby the Nerves become affected, as in many lethargick and paralytick caſes, which in the human body ſometimes produces a *Gutta Serena*. This diſtemper of the Eyes is alſo cauſed by blows or wounds on the Head, and by ſeveral other accidents; but Horſes are ſeldom ſubject to it, and I have not ſeen above two or three Horſes blind with a *Gutta Serena*, unleſs where it may be complicated with a Cataract, and thoſe Horſes were of the draught-kind, and probably their blindneſs was cauſed by hard ſtraining in their work, before they had arrived to ſufficient ſtrength for labour. A Gutta Serena deſcribed.

The ſigns of a *Gutta Serena* in a Horſe, are theſe. He always appears when any one happens to handle him as if he was more than ordinarily ſhy about the Head, eſpecially to ſtrangers; for blind Horſes can diſtinguiſh ſtrangers from thoſe that look after them and feed them, by the voice and other tokens. When he is brought out into the light, he often pricks up or moves his Ears, raiſes his Head high, as a Horſe when he looks upwards to the light, of which he may for a long time have ſome little glimmering. When he moves he alſo lifts up his Feet exceeding high, and ſets them down with fear, not ſeeing the ground nor any objects round him; and if his Face is turned to a wall when the diſtemper is compleat, he will run againſt it, notwithſtanding no other defect can be ſeen in the Eyes, than that they are in a great meaſure immoveable, and keep one direction, otherwiſe they look clear and without blemiſh. Another thing to be obſerved in a *Gutta Serena* is, that it generally ſeizes both Eyes at once. The ſigns.

This ſort of blindneſs is in a great meaſure incurable, unleſs a Horſe be young, and when it is diſcovered in time; for as no defect is to be ſeen in the Eyes, it may go on and not be found out till it is too late for any thing to be done. It may be ſometimes cured when it proceeds from the Staggars, as in the inſtances I have related, of a troop Horſe

that continued three months after his cure of that diſtemper ſtone-blind, without any viſible defect of his Eyes, and afterwards came gradually to his Sight. But theſe inſtances are few, and ſeldom to be met with. And where a cure is attempted it muſt be performed chiefly with mercurial medicines, ſuch as calomel, cinabar of antimony, native cinabar, mild purges, at proper intervals, and rowels; but bleeding is often hurtful, and ſhould be taken only in very ſmall quantities, except in plethorick conſtitutions, that abound very much with Blood; in ſuch a caſe bleeding freely may be of uſe, as it may leſſen the quantity of the Blood, in the ſmall Arteries, which by their continual plenitude and preſſure, may in time deſtroy the proper functions of thoſe Nerves that ar diſtributed to the Eyes.

CHAP. IV.

Of Fevers.

Definition of a fever, with the various kinds of fevers.

ALL fevers conſiſt in a more than ordinary degree of motion in the Blood, attended with a preternatural heat, and in ſome with inflammation and burning. Some fevers are more ſimple, and others more complicated. In ſome the fever riſes and falls, being higher at one time than another; and ſome fevers are periodical, and come only at a certain time, even to an hour or to a minute, once or oftner a day, once in two days, and ſometimes once in three days; and as ſoon as theſe periods are over, the fever generally goes entirely off, till its uſual time of return, which by continuance, becomes habitual. All theſe periodical fevers are called intermittents; but theſe ſeldom happen to Horſes. And the other fevers, whether they be more or leſs compounded, *viz.* whether they are ſimple, inflammatory, malignant, putrid, or peſtilential; whether they riſe higher or lower, or have any other variations; yet if the fever does not totally go off, but remains in ſome degree, ſuch are uſually termed continued fevers, as conſiſting only of one period. Almoſt all ſymptomatick fevers, which ariſe from accidents of any kind, or from the diſeaſes of particular parts, generally conſtitute fevers of the continued kind, and always remain in a higher or lower degree, until the cauſe by which they are produced is removed.

Of a ſimple continued Fever.

A SIMPLE continued fever, as has been obſerved, conſiſts in a more than ordinary rarefaction of the Blood, with an increaſe of its motion, and where there are few or no ſymptoms of any other diſeaſe, in which we ſuppoſe the Blood to be little, if at all vitiated, the principal Viſcera ſound, and no ways hurt or injured by any previous accident, or concomitant diſeaſe; and admits but of one ſingle period, having no intermiſſions, as ſome other kinds of fevers, where the ſtate of the Blood is changed or altered. A ſimple Fever deſcribed.

THIS fever ſeems to be very frequent in hotter climates, as appears from the writings of Signior *Ruini*, *Soleyſell*, and other foreign authors; and I have frequently met with it among our own Horſes, in the ſummer eſpecially, when the weather has been hot and ſultry, and the air much rarified. However, a ſimple fever is ſeldom dangerous, but when ill managed by the ignorant practitioners, who by improper applications often change ſimple fevers into thoſe of the complicated kind. Simple Fevers uſual in ſome hot ſeaſons.

SIMPLE fevers may proceed from any cauſe that tends to rarify a Horſe's Blood too much, as working or travelling in very hot weather; ſometimes from a diet too hot and rarifying, as too many oats, and perhaps ſome kinds of hay and graſs may have the ſame effect; it may alſo proceed from a particular temperament and diſpoſition of the air, which I imagine to be as frequently the caſe as any other; for I have known ſeveral Horſes in this fever, at the ſame time, and in different places, where no other viſible cauſe could be aſſigned for it. The cauſe of theſe Fevers.

THE ſigns are ſome of them in common with moſt other fevers, as reſtleſneſs, beating at the Flanks, the Eyes red and inflamed, the Tongue parched and dry, by an increaſed perſpiration. As in complicated fevers Horſes often look dull, heavy, and liſtleſs; in this, a Horſe generally looks lively, moves his Ears backwards and forwards, and is very attentive to any noiſe, but loſes his appetite, and ſometimes ſo far that he eats nothing at all for a day or two, ranges from one end of his rack to the other, and nibbles at his hay, pulling it out without chewing it, as if he was curious and dainty; he generally ſmells at clean litter, and begins to eat ſtraw before he can reliſh his hay. As in other fevers, where the Blood is vitiated, or where the principal Viſcera are affected, the Ears and Feet, generally feel cold, or alternately cold and hot; in this the Ears and Feet are commonly of an equal warmth with his other parts, which are generally hotter than ordinary, though not parched The Signs and Diagnoſticks.

and

and dry, as in ſome inflammatory diſeaſes. He dungs pretty freely, but not much, and that is uſually hard and in ſmall balls, but ſeldom greaſy; he has ſometimes difficulty in ſtaling, and his urine high-coloured; he ſeems to thirſt, but drinks little at a time and often; which I take to be owing to the diſtention of his Lungs and Midriff, for that cauſes him to be ſhort breathed, and hinders him from drawing down large draughts..

The Cure. THE firſt thing in order to a cure, is to bleed to the quantity of three pints or more, if the Horſe be naturally ſtrong and in good caſe. After bleeding give the following drench.

Take chamomile flowers; ſage and baum, of each a handful; liquorice root cut into thin ſlices; half an ounce ſal prunellæ, or nitre, two ounces. Infuſe in two quarts of boiling water in the manner of tea; when it is almoſt cold pour off the infuſion, and ſweeten with honey; but thoſe who will be at the expence may ſweeten this infuſion with four ounces of ſyrop of lemons, or ſqueeze a lemon into it, which will make it both cooling and grateful; three horn-fuls may be given four times a day.

The manner of feeding in Fevers. As all cooling applications are proper here, therefore his diet ſhould be ſcalded or moiſtened bran; his feeds ſhould be but ſmall, for when given in ſmall portions, it does not clog a Horſe, as when it is heaped on him in large quantities, for this always makes a Horſe take a diſlike to a moiſt diet, which is a great loſs, becauſe the bran keeps him open, and therefore half a quartern three or four times a day will be ſufficient, until he comes to a better appetite; and if he refuſes ſcalded bran, let him have raw bran, ſprinkled with water. It is alſo neceſſary to pick out the fineſt and ſweeteſt hay, which ought to be put down into his rack by ſingle handfuls, and renewed pretty often, that being the likelieſt way to provoke a ſick Horſe to eat. This is ſufficiently known to every knowing ſtable-man, and I have only mentioned it, becauſe through negligence or lazineſs it is ſometimes but ill practiſed; and I have frequently obſerved in this fever, that the firſt thing a Horſe craves to eat is hay, wherein he ought by all means to be indulged, for he will pick hay ſeveral days before he will touch any thing elſe. It is alſo a good way to feed a ſick Horſe now and then by the hand, for many familiar Horſes love to be fed that way, when they find it uneaſy for them to be continually reaching their Heads up to the rack; this method often entices them to eat as much as may be neceſſary for them, while the fever is ſtrong upon them, for lowneſs contributes a great deal towards the

removal

removal of ſuch diſtempers as proceed from over rarefaction of the Blood; and it is obſervable in theſe caſes, that a Horſe ſeldom recovers, till he loſes his fleſh; his water needs not be much warmed, but it ſhould be given pretty often, and in ſmall quantities; for while the Blood-veſſels of the Lungs, Midriff, and other parts that ſerve to reſpiration, are full and diſtended by the over rarification of the Blood, as I have already taken notice, a Horſe in this condition is unable to glut down much at a time, for want of Breath, which being obſerved by perſons ignorant of the true cauſes of this difficulty of ſwallowing, both when they drink, and when their drenches are given them, they are apt to imagine this ſymptom proceeds from a foreneſs of the Throat, and therefore they adminiſter ſuch things as they think proper to remove that ſymptom, and cover their Heads and Necks with woolen hoods, which is altogether unneceſſary, if not hurtful, there being nothing more wanting in the way of cloathing, than to cover the Horſe's Body from his Shoulders to his Hips, juſt to keep him moderately breathing, and to prevent his catching cold when doors and windows happen to be opened; ſo far indeed cloathing is neceſſary, but farther I think needleſs; too much heat and too great weight being improper in horſes fevers, which ſeldom or never go off by critical ſweats, as thoſe of the human body, but by a ſtrong perſpiration; and indeed whenever a Horſe ſweats profuſely, without ſudorifick medicines in fevers, or any other ſickneſs, it is uſually the effect of violent pain; and therefore in this fever particularly, ſlender cloathing is certainly the beſt; and I am the more convinced of this, becauſe I have had many Horſes recover and do well in ſimple fevers, that have never been cloathed at all, but ſtood altogether naked, and ſome of them in places that have not been very warm, but were ſuch as they had been accuſtomed to when well.

Useful Obſervations to prevent miſtakes.

HAVING premiſed theſe things, I ſhall proceed to the other parts of the cure. If a Horſe in a day or two begins to eat ſcalded bran, and to pick a little hay, there will be no great need of any thing farther than good nurſing; but if he ſtill refuſes to feed, he ought by all means to loſe more Blood, and the ſame drinks ſhould be continued, which are both cooling and grateful to the ſtomach, and two drams of ſaffron may be ty'd in a ragg and ſqueezed into the infuſion; it is much more ſafe and better than hotter cordials, and things of a ſpirituous or cloying nature, made with wine or ſtrong-beer, which ſome uſe upon all occaſions, or the drenches made with Venice treacle, Mithridate, and ſuch like things, which often prove hurtful, and ſometimes fatal, in ſuch caſes where bleeding and coolers are chiefly required.

The ſymptoms that require continuance of Medicines

OBSERVE

OBSERVE his dung, and if that be knotty and dry, which frequently happens, by the increaſe of heat and perſpiration, in that caſe let he following emollient glyſter be given.

Take two handfuls of marſhmallows, one handful of chamomile-flowers, ſweet fennel ſeeds an ounce; boil in three quarts of water till one is conſumed; pour off the decoction, and add to it four ounces of common treacle, and a pint of lintſeed-oil.

THIS may be repeated till the Horſe's Body is open, and his dung of a looſe conſiſtence, which will greatly help him forward in his recovery, and bring him to his ſtomach, and do much better than purging glyſters, which in ſuch caſes often defeat the deſigns of nature, which requires nothing more than to keep the Body cool and open; and this end is better anſwered by theſe than purgatives. Therefore all the glyſters given to Horſes in continued ſimple fevers, ſhould be of the emollient kind; and in places where chamomile-flowers and marſhmallows cannot be procured in due time, a glyſter may be made with water-gruel and butter, or with fat broth, which will often anſwer the ſame end, without farther trouble. Theſe things will be of great uſe to cool and refreſh their Bodies, and to abate their fevers, which generally continue but a ſhort time, when rightly managed, and go off gradually.

The Signs of a perfect Recovery.

IN a ſimple fever, the Horſe generally begins to pick hay, the third or fourth day, with a ſeeming reliſh to food, though his Flanks will heave pretty much for a fortnight, and moſt of all towards the latter end of his ſickneſs, when the fever has in a manner quite left him, in ſo much that I have known ſome perſons that could not be perſuaded but a Horſe has been worſe when all the danger was over, than when he was firſt took ill; but the true reaſon of this miſtake is, becauſe in all theſe kind of fevers a Horſe looſes his Fleſh very faſt, by an increaſed perſpiration, and the Lungs, Midriff, and Muſcles of the lower Belly, ſink in proportion to his other parts, which occaſions a quick reſpiration or breathing, that can only wear off as he gathers his fleſh and ſtrength; but then if we examine his caſe critically, at this time, we ſhall find all the ſymptoms of a perfect recovery. He will be all over cool, and in good temper, without any remains of preternatural heat. Though he labours much at his Flanks, it ſeems to be no great pain or uneaſineſs to him, for he eats with great eagerneſs, and makes no ſtops, as in the time of his fever; ſo that he ſtands of no further need of medicines, but to walk him abroad every day in hand into the air, and in his

ſtable to allow him plenty of clean litter, that he may lye down often to take his reſt, until he arrives to perfect health and ſtrength.

As to an inflammatory fever, it is no other than an augmented degree, which may happen in fevers of all kinds where there is a plethora or fulneſs of blood, and whether that proceed from high feeding, from the nature of the food, from the natural temperament and conſtitution of the Horſe, or from any other cauſe, is always dangerous to Horſes, and ought by all means to be ſpeedily removed by bleeding and other proper evacuations, with plenty of ſuch things as are proper to allay the intemperate heat and effervescence of the Blood, which ſymptom ought always be regarded in this and all other fevers, otherwiſe they will ſoon prove mortal. I have ſeen ſeveral Horſes opened that have died with their Blood exceſſively inflamed, and probably ſome of them for want of proper and ſufficient means to recover them. Theſe had their Blood-veſſels ſo much crammed and full, that the Blood burſt out of the ſmaller Veſſels, and run over their Carcaſſes in many places, while the collar-makers were fleaing off their Hides. Their inſides were generally much inflamed, *viz.* the Lungs, Midriff, and Liver, with all the other Viſcera; and upon cutting open the larger Veſſels, the Blood guſhed out as from a fountain, filling all the cavity of the Body, which plainly ſhewed, that bleeding in ſufficient quantity was wanting; and likewiſe the plentiful uſe of diureticks, and things moderately cooling.

Inflamma tory Fevers, how to be managed

The ill effects of inflammatory Fevers.

Of Complicated or Compound Fevers.

A Compounded or complicated fever has, beſides an augmented motion of the Blood, ſome evil qualities in the Blood and animal Juices, that gives riſe to the fever, from whence they are denominated *malignant*, *putrid*, or *peſtilential*, according as the Blood happens to be more or leſs vitiated.

A compound Fever deſcribed.

The malignant fever ſeldom riſes to any remarkable degree of heat and burning, as other fevers often do, neither does it come to any certain or diſtinct criſis; but as it creeps on gradually, ſo it wears off inſenſibly, nature ſtriving all the time, to get rid of her enemy in various ways, ſometimes by one ſecretion, and ſometimes by another, but not perfectly by any, which renders the cure both tedious and uncertain; and without great care and ſkill in the practitioner, theſe fevers are apt to end in a conſumption, and ſeldom or never come to diſtinct intermiſſions, as in the human body.

Malignant and putrid Fevers.

Practitioners apt to make mistakes in treating these fevers.

THESE ſort of fevers are not uncommon among Horſes, though few practitioners, for want of a competent knowledge in ſuch things, have been able to diſtinguiſh them from ſevere colds, or other diſeaſes that are attended with feveriſh ſymptoms.

The cauſes of malignant and putrid Fevers.

THEY take their riſe from ſeveral cauſes, ſometimes from unwholſome food, *viz.* eating too great quantities of rotten or coarſe hay, rank clover, muſty bran, or oats, too many beans, muſty chaff, drinking unwholeſome water; all which things weaken the Stomach and poiſon the Blood. Sometimes malignant fevers proceed from want of exerciſe ſufficient to digeſt what a Horſe eats, and the more unwholſome the food is, the more he ſuffers by lying ſtill, which firſt depraves the Blood, and at length contaminates the Glands, and renders them incapable of performing their proper functions; for in this fever the glandular diſcharges are either too ſparing or too liberal, whereby a Horſe ſuffers extremely, though this irregularity in the ſecretions often proves the means to preſerve life, by affording a ſufficient truce for the proper means to be uſed for his recovery. Sometimes theſe fevers proceed from haraſſing and working Horſes beyond their ſtrength, and by giving a ſhock to the conſtitution, cauſes an uncommon depreſſion of the Spirits, whereby all the natural functions are diſturbed and put out of frame, and if a Horſe be old, he ſeldom gets over ſuch uſage.

The ſigns of a malignant Fever.

THE ſigns are a ſlow fever, with languiſhing and great depreſſions; ſometimes lower, ſometimes higher; ſometimes the Horſe is inwardly hot, and outwardly cold; at other times he is hot all over, but not to any extreme. His Eyes for the moſt part look moiſt and languid, and has a continual moiſture in his Mouth, which is the reaſon, why he ſeldom cares to drink, and when he does, it is but little. He feeds but little, and yet is not apt to go totally off his Stomach, but leaves off as ſoon as he has eat a mouthful or two; and the continual moiſture of his Mouth, cauſes him to move his Jaws in a feeble looſe manner, with an unpleaſant grating of his Teeth. He is commonly open in his Body, and his dung ſoft and moiſt, but ſeldom greaſy. His ſtaling is often irregular, ſometimes very little, and ſometimes he ſtales profuſely, ſeldom high-coloured, but rather pale, with little or no ſettlement.

The Prognoſticks.

IF the Horſe has no great cold or inward ſoreneſs, he may with good management recover. If he be very old, and his Blood grown vapid and poor, it will be difficult to reſtore him again, ſo as to be of any great uſe, unleſs his conſtitution has been naturally ſtrong and vigorous. A Horſe that has met with any violent ſhock, either in hard labour, or by any other accident, will be in danger of ſome inward abſceſs or impoſtumation.

It is alſo a bad ſign when a Horſe's appetite declines, which in ſome goes off gradually, and grows leſs every day, till at laſt they forſake all manner of food. When the fever does not diminiſh, or keep at a ſtay, but rather increaſes, the caſe is then always dangerous, and the fever will require more than uſual ſkill to conquer it; but when the fever ſenſibly abates, when his Mouth grows drier, and the grating of his Teeth ceaſes, when he mends gradually in his appetite, when he takes to lye, which at firſt he ſeldom does, ſometimes for a week, a fortnight or longer; theſe are all promiſing ſigns; and when ſuch ſymptoms appear, nothing leſs than ſome prepoſterous ill management can prevent his recovery.

The Cure.

THIS fever is little underſtood by moſt practitioners, and at the ſame time ſo difficult, by reaſon of the various ſymptoms attending it, that I ſhall therefore be the more particular in the cure; and in order thereunto, it will be proper in the firſt place, to take away a moderate quantity of blood from the jugular or neck-vein, but this ſhould not exceed a quart or three pints, unleſs there be alſo a cold or inward ſoreneſs, or ſome inflammatory ſymptom, or a more than ordinary fullneſs of blood, in which caſes a Horſe may loſe a larger quantity, and the bleeding may alſo be repeated, if it ſhould be found neceſſary. After bleeding, let the following infuſion be made.

Cautions in bleeding.

Take rue, pennyroyal, and ſcordium, of each a large handful; chamomile flowers, half a handful; gallingals bruiſed in a mortar, half an ounce; the beſt Engliſh ſaffron, three drams. Infuſe theſe in two quarts of boiling water in an earthen pan; cover the infuſion with a plate or trencher, and when it has ſtood to be cold ſtrain it into another veſſel, or pour it gently off from the ingredients, which I think is rather the better way of the two for Horſes.

LET a pint of this infuſion be given twice a day, *viz.* in the morning faſting, and about two hours before feeding time in the afternoon. It will both ſtrengthen the ſtomach, and help to remove the diſorders of the nerves, and by continuance wear out the fever, if no uncommon accident or change happens, eſpecially if a Horſe be well ordered in his diet, and in other reſpects, as I have often found in many inſtances of Horſes that have been under my own care. But as Horſes in malignant fevers ſeldom fall totally off their ſtomachs in the beginning, as in moſt other fevers, but uſually keep picking and eating hay all the time, at intervals, taking breath always between whiles, and then going to it again; ſo that few can

be perſuaded of their danger, and therefore moſt people allow them oats or any thing elſe they can eat, which is altogether improper. And I have often obſerved in theſe caſes, when a Horſe is indulged with oats he cares for nothing elſe, and ſoon leaves off his hay, and after a little time loaths his oats alſo, and at laſt, forſakes all manner of food, and then his caſe indeed grows dangerous. Therefore this has been a ſufficient caution to me at all times, never to humour Horſes palates in fevers, by allowing them oats or any thing elſe that may heat their bodies and give increaſe to their fevers; but encourage them as much as poſſible in eating ſcalded bran, and if they refuſe to eat it ſcalded, to allow them raw bran, ſprinkled with clean water, with the ſweeteſt and beſt flavoured hay that can be procured, and this ſhould be put into their racks only by ſmall handfuls at a time. But becauſe in malignant fevers Horſes are apt to be depreſſed, ſometimes to ſuch a degree that they are ſcarce able to lift up their Heads to the rack, therefore they ſhould often be fed by the hand. And indeed, ſome familiar Horſes love to be ſo petted, and will by that means eat twice as much as they would do if they were left to themſelves. And I have always obſerved Horſes are never the worſe, but the better in fevers, with any quantity of good hay they can eat, and generally with right care, the more they take to their hay, the more their appetite increaſes, and the better they reliſh their water.

A proper regimen to be obſerved in the diet.

Now as to their drink it is always a good token, in ſuch caſes, when a Horſe drinks freely; for in this ſort of Fever they ſeldom drink what is ſufficient for them, till the Fever abates. But drinking is ſo abſolutely neceſſary to thin and delute their Blood, and to promote the ſecretions, that whenever I perceive them backwards to drink water or gruel, or any thing elſe when it is warmed, I always allow them to drink it cold, even in winter, without any other warmth beſides the heat of the ſtable, that is by keeping always a pailful of water in the ſtable, which takes off the chill ſo as juſt to render it agreeable. This method often brings Horſes ſooner to their appetite, than by compelling them to drink their water of a nauſeous warmth, and I never knew any Horſe ſuffer by drinking cold water in Fevers; for when Horſes are hurt at any time with cold water, it is generally when they are heated with exerciſe, and chiefly thoſe that are corpulent and high fed; for this chills and coagulates the Blood, and breaks its texture, whereas the cold water in Fevers diſſolves its grumous parts and renders it more fluid, which greatly contributes to remove the diſtemper. Beſides, that cold water likewiſe cools and refreſhes their bodies, abates their inward heat, and perhaps has ſomewhat of the ſame effect on them, that

Several neceſſary cautions.

that lemon juice and acids have on the human body; and I have many times obſerved Horſes that have been much off their ſtomachs in Fevers, and have obſtinately refuſed warm water, drink cold water heartily, and go immediately to the rack to eat hay, which has tended greatly to their recovery.

I have cured many ſlow malignant Fevers in Horſes ſucceſsfully, by this kind of management; but if the fever ſhould ſtill continue, by reaſon of a more than ordinary ill diſpoſition in the Blood; if the Horſe feeds poorly, if he ſtales often, his urine thin and of a pale colour, and without any ſettlement; if his dung be ſometimes looſe, and ſometimes hard; if the redundant moiſture of his Mouth continues with redneſs and ſpungineſs about the roots of his Teeth; if his ſkin feels ſometimes dry, and his coat looks ſurfeited, at other times moiſt and damp; theſe are ſigns that the diſtemper ſtill remains in its force, and therefore the following things may be further adminiſtered.

Take Diapente, two ounces; Myrrh and Virginia Snakeweed, in powder, of each half an ounce; Saffron, two drams; Liquorice powder, ſix drams; Mithridate, one ounce; make into four balls, with a ſufficient quantity of rectified Oil of Amber. Proper remedies in the increaſe of the diſtemper.

LET one of theſe be given every morning, and one every afternoon, about two hours before feeding time, with three or four hornfuls of an infuſion, after each, made by adding to the infuſion above inſerted, half an ounce of Virginia Snakeweed, and two drams of Caſtor, cut into ſmall pieces, and mix with it a pint of white *Liſbon* or Mountain Wine. Let it be divided into four portions, for two days. After which, the infuſion may be made freſh, with the balls, both which may be continued about a week, or till the fever abates. Or the following may be adminiſtered, which perhaps will be no leſs efficacious.

Take Pennyroyal, Rue and Scordium, of each two handfuls; Chamomile Flowers, half a large handful; Gentian root cut ſmall, and Galingals bruiſed in a mortar, of each half an ounce; Saffron, Salt of Wormwood, and Liquorice, of each two drams; infuſe in two quarts of boiling water, adding to the infuſion when poured off, four ounces of Spirits of Wine, wherein half an ounce of Camphor has been diſſolved. A method of cure for Horſes of ſmall value.

THIS

THIS to be given as the preceding, *viz.* A pint every morning and afternoon, with a ball made of an ounce of diapente, a dram of virginia ſnake-weed, and a dram of ruſſia caſtor.

FOR a Horſe of ſmall value, give an ounce of diapente once a day, made into a ball, with mithridate and oil of amber, and make a ſtrong infuſion of rue and pennyroyal, whereof a quart, three pints, or even two quarts, may be given every day at proper times till the fever abates, and may be continued afterwards during pleaſure, obſerving carefully all the above recited precautions concerning his feeding, but eſpecially that he has plenty of water, and as ſoon as the Horſe is fit to be walk'd abroad, it will be proper to lead him every day into the open air, for nothing will contribute more to recover him to his ſtrength and appetite.

New and dangerous Symptoms to be regarded.

BUT if other ſymptoms ariſe, beſides what are common in this ſort of fever, or if the common ſymptoms increaſe to any degree that may prove dangerous, theſe muſt be regarded. For inſtance, if the Horſe grows coſtive, and that continues ſo as to take him off his ſtomach, and increaſe his fever, recourſe may then be had to glyſters, which ought to be of the emollient kind, and not violently purgative. Three or four ounces of cream of tartar, or the ſame quantity of lenitive electuary may alſo be mixed, and given in one of his drenches, once in two days till he is ſufficiently open; this will be the likelieſt means to prevent inward inflammations, which in this languid ſtate of the Blood is always dangerous. On the other hand, if the Horſe ſcours and purges, tho' this is often uſeful and helps to abate the fever, yet if it continue ſo as to render him weak and feeble, it will be proper to give it a check, which may be done only by ſubſtituting diaſcordium in a few of his drinks, inſtead of the mithridate above preſcrib'd; but if a perfect diarrhea ſhould happen, then recourſe muſt be had to thoſe things proper in that diſtemper. See SCOURING and LOOSENESS.

THE ſame rules ought alſo to be obſerved in caſe Horſes ſtale too much, which often happens, and cauſes a great depreſſion of their Spirits, the ſtaling ſhould be abated by proper reſtringents, or by making his drinks with lime-water, inſtead of ſpring or river-water, which generally ſucceeds in ſuch caſes; and if it happens otherwiſe, that a Horſe ſtales but little, and continues any time with this ſymptom upon him, ſo as to cauſe redundancy with ſwelling of his Body and Legs, then recourſe muſt be had to diureticks ſuch as the following.

Take *Venice* Turpentine, half an ounce; Juniper Berries pounded, the ſame quantity; Sal Prunellæ or Nitre, an ounce; make into a Ball with Oil of Amber.

Let

LET the Horſe have two or three of theſe balls given at proper intervals, with a pint of the following decoction after each, *viz.* Two large handfuls of the roots of marſhmallows, wip'd and cut into thin ſlices, and then boil'd in two quarts of river or any ſoft water to three pints, and ſweetened with half a pound of honey. But theſe things need not be continued longer than while the ſymptoms remain, otherwiſe they may give riſe to contrary ſymptoms that may be hurtful.

What is proper to be done where the Fever is of a putrid kind.

IF any other ſymptoms ariſe, ſuch as inward foreneſs, running at the Noſe and Eyes, with greater heavineſs and depreſſion than was before, the fever may then be reckoned of the putrid kind, and ought to be treated as ſuch, for a putrid fever ſeems to be no other than a degeneracy of a malignant, or any other fever into a partial or univerſal rottenneſs, of which many inſtances are daily to be met with among Horſes, but are often the effect of ſome miſmanagement, whereby fevers not dangerous in their nature and kind, often acquire ſuch complications as in the end render them deadly.

IN a putrid fever, the Blood ſtill becomes more ſlow and languid in its motion than is uſual in other fevers, and is often attended with cold fits, and with trembling, the Juices of the Glands are more vitiated, and even grow corrupt. The lymph which ſhould preſerve the Blood thin and fluid, coagulates, and alſo turns corrupt, and the inactivity of the Blood, and the want of due ſecretions in the Glands, cauſes a redundancy and ſtagnation in the ſmaller Veſſels, and this is followed with ruptures and extravaſations, all which produce putrefaction. If this happen only to the external parts, it uſually ends in ſome chronical diſeaſe, with ſcabs and eruptions on the Skin, but when the putrefaction proceeds from lingring fevers, it is then more univerſal, and ſeizes the Vitals, and corrupts the Lungs, the Liver, Kidneys, or other principal *Viſcera*, and ſometimes the whole Maſs, ſo as to cauſe a moſt miſerable death.

THEREFORE in all fevers where there is any degree of malignity, the proper medicines ſhould be often repeated, to prevent putrefaction and rottenneſs, for if nature happens not to be very beneficent, the common method of adminiſtring two or three drenches will avail but little to prevent the evils that attend theſe maladies, and if theſe medicines ſhould happen to be improper, the miſchief muſt ſtill be the greater. In ſuch caſes the practitioner's chief ſtudy ought to be, to order thoſe things in ſufficient plenty, that have a tendency to rarify the Blood and reſiſt putrefaction, ſuch eſpecially as have been already inſerted, with plenty of gruel and other diluters. But if there is actually the ſigns of putrefaction, the medicines ought to be joined with the warmeſt cardiacks, diaphoreticks, and volatiles; ſuch as ſal armoniac,

armoniac, ſalt of amber, and ſalt of hartſhorn; but becauſe of the high price theſe things would bear when given in ſufficient plenty to Horſes, I have often ſubſtituted camphor and the oil of amber, which contains a portion of the volatileſalt in it, and which I have always found agreeable, in theſe, and many other diſeaſes of Horſes. The latter has been already directed, in balls; a ſpoonful may be alſo added to every drink, and the camphor may be likewiſe increaſed to two drams diſſolved in ſpirits, with plenty of diluters, even cold water, as much as he will drink, if he refuſes things that are warm; and by this method I have had many Horſes recover, notwithſtanding they have diſcovered the uſual ſigns of putrefaction. If the diſtemper be attended with inward ſoreneſs, it ſhould be treated with a mixture of pectorals, as in a pleuriſy or peripenumony, for rottenneſs and impoſtumations of the Lungs happen alſo from violent and inveterate colds, where no malignant or other fever has gone before. Of this the reader will be more fully informed, when I come to treat of the diſeaſes of the breaſt.

But in all putrid caſes to which Horſes are liable, whether they proceed originally from fevers or from ſudden heats and colds, coagulating the Blood, or from any ſudden ſtop given to perſpiration, the following ſigns conſtantly attend, and are to be regarded, as they will enable the practitioner to judge what he is about: A Horſe in theſe caſes always runs at the noſe, but not in a kindly white ſnot, as in the breaking of a cold, but of a rediſh or greeniſh duſky colour, and of a conſiſtence like glue, and ſticks like turpentine to the hair on the inſide of his Noſtrils. If this ſymptom abates and turns to a gleet of clear thin water; if the Horſe loſes his Fleſh, with his Hide open, and mends in his appetite; theſe are for the moſt part infallible ſigns of recovery, and nothing further will be neceſſary than to proceed in the uſe of the formentioned things, for a few days longer, and afterwards to walk the Horſe every day in the air. But if the matter continues paſted on the inſide of the Noſe; if he ſeems to have a conſtant ſtoppage there, from an obſtinate inflammation of the glands, with a frequent ſneezing and conſtant ſnivelling; his caſe may then be looked upon as dangerous, and therefore no time muſt be loſt in plying him with proper medicines, and careful attendance: but if with theſe ſymptoms he loſes not his Fleſh, and yet becomes hide-bound; if he altogether forſakes his meat, grows more weak and feeble; if ſwellings ariſe about his Joints; if the kernels under his Jaws ſwell and feel looſe; if his Eyes look fixed and dead; if his Tail is raiſed and quavers; if his Breath ſmells ſtrong, and begins to purge and ſcour, and diſcharges a fœtid dark coloured matter, his caſe

may

may then be looked upon as deſperate; and it would not be worth while to be at any trouble or expence to ſave him.

The method to be uſed when a Horſe is upon the recovery.

But when a Horſe is recovering out of this diſtemper, he exhibits quite different ſigns; though he loſes his Fleſh, yet his Hide keeps open, and his Skin feels kindly; his Ears and Feet are of a moderate warmth; his Eyes, that before were dull and heavy, begin to look briſk and lively; his Noſe grows clean and dry; his appetite daily increaſes; he lyes down regularly, and reſts with great eaſe; ſtales and dungs regularly; and ſome break out with eruptions, in the decline of the diſtemper, which are of great ſervice; and where theſe ſymptoms appear, there will be no more need of medicines, but what further remains to be done, is only in the way of diet and exerciſe, which ought to be much regarded when Horſes are juſt come out of ſickneſs. In this reſpect moſt people uſually err, and are for feeding largely, to bring them ſoon into good order: and though ſome Horſes will indeed go through this kind of treatment without any hurt; yet when a Horſe, or any other creature, is much reduced and weakened with ſickneſs, the Stomach and Bowels are proportionably ſo too, which makes haſty feeding always hazardous, becauſe in this caſe the appetite often craves more than the ſtomach can digeſt, and this may eaſily cauſe a return of the diſtemper, which I have ſometimes ſeen, and has always been dangerous; and if he eſcape a relapſe, it is great odds but he will be ſurfeited, which frequently happens; and the ſurfeits that come after fevers, and other acute diſtempers, prove very obſtinate and hard to cure. And therefore the beſt way to avoid this, is to begin with a light diet, ſmall feeds, and increaſe by degrees, not according to a Horſe's appetite, which in ſome is exceeding voracious, but according as he gathers ſtrength, and is able to digeſt well what he eats. He ſhould alſo be taken out every day into the open air, in the manner that has been already mentioned, and be brought into his exerciſe and wind by degrees, and he will ſooner recover both his fleſh and ſtrength by this means, than by pampering and haſty feeding, or by any other method that can be deviſed, as I have often found from experience.

Of Epidemical Fevers, and other diſtempers of Horſes, ſaid to be catching and infectious.

THE writers in phyſick often diſtinguiſh between thoſe diſtempers that ſpread over many countries and nations at once, and thoſe that are limited and confined to particular provinces or places. The firſt they term Epidemical, the later Endemial; but that I may not puzzle my readers, I ſhall avoid, as much as may be, the diſtinctions made by the learned, and treat thoſe diſtempers that come at ſome particular ſeaſons, whether they be more or leſs univerſal, or more or leſs infectious, under the general term Epidemical, that being an appellation moſt commonly in uſe among us, and the beſt underſtood.

HISTORY affords us many diſmal relations of murrains and plagues among Horſes, and other brute creatures, in former ages, which were indeed ſo terrible, that they could be reckoned nothing leſs than heavy judgments from Heaven, being generally followed with famine and peſtilence among men, which ſwept off the greateſt part of the inhabitants, whenever theſe calamities come; but ſuch univerſal devaſtations have more rarely happened in latter times, and, by the goodneſs of Divine Providence, much leſs among us than in foreign nations.

Horſes ſometimes ſubject to Fevers of the peſtilential kind.

IT is, however, certain, that even in our times, Horſes as well as men, are frequently ſubject to epidemical fevers, and ſeveral infectious diſtempers, that may be reckoned of the peſtilential kind; and may be owing to ſome particular temperament of the air, or to ſome unknown cauſe, whereby many Horſes are ſeized, and in different places at once. Theſe prove more or leſs dangerous according as the previous ſtate of the blood happens to be more or leſs depraved, or according as the preſent diſpoſition of the diſtemper happens to be more or leſs ſevere; for among us many of the complaints that come in this manner, prove but ſlight diſorders, and often go off without much help from medicine, only with a little care and management: others are more dangerous, and more remarkably infectious, and ſometimes prove ſuddenly fatal to many Horſes; but when ſuch maladies happen in our climate, they are uſually of ſhort continuance.

PESTILENTIAL fevers, are thought only to differ in degree from thoſe of the malignant kind, which are common at ſome particular ſeaſons, and do not always prove deadly, tho' the cauſes from whence ſuch fevers proceed may be very different, and are to us in a great meaſure unknown; but however that be, the deadly effects are much more ſudden than any other,

and are ſuch, that they ſcarce allow time for the adminiſtration of medicines. The fevers that reſemble theſe moſt in our climate, always begin with great ſtupidity, ſwellings of the Eyes and Eyelids, ſwellings of the parotid Glands, and other kernels about the Throat, a profuſe running of duſky coloured matter from the Noſe, and a flux of the ſame kind of matter from the Mouth, and of a fœtid ill ſavour; ſudden large ſwellings of the Limbs, eſpecially about the Joints, which are often followed with ſtaggers of the apoplectick kind, having all the ſame ſymptoms that ariſe from poiſon, and are to be treated accordingly, with bleeding, glyſters, rowels, and other evacuations, with the moſt efficacious cephalicks and alexipharmicks, as caſtor, aſſa fœtida, volatile ſalts of all kinds; balls or drinks made with gentian, zedoary, gallangals, white dittany, biſtort, tormentil roots of contrayerva, and Virginia ſnakeweed, with camphor, Mithridate or Venice treacle, in the manner already laid down for the cure of malignant fevers. But as theſe deadly diſtempers happen but rarely among us, ſo the ſickneſs here uſually rages but for a ſhort ſeaſon. I can remember this ſort of ſickneſs but once in my time, above thirty years ago, which almoſt ruined many farmers in ſeveral parts near *London*; it came in a very dry ſeaſon, and after about three months continuance, began to abate and grow leſs deadly, and ſoon after intirely ceaſed.

But the moſt common diſtempers of Horſes may be ſometimes counted epidemical; when they ſeize many Horſes at once, and become a general complaint in divers places, and are attended with ſome unuſual ſymptoms. Even colds are frequently ſo rife, eſpecially among young Horſes, that we can ſcarce go into a ſtable where the diſtemper has not ſpread itſelf with the appearance of ſome uncommon malignity; but theſe colds are often ſo far from proving deadly, that with proper care they tend greatly to the improvement of a Horſe's health and conſtitution, and render ſuch Horſes more hardy and durable afterwards, and recover many Horſes to perfect ſoundneſs, that before were full of complaints.

Malignant Colds frequent and uſual.

In epidemical colds, the glands about the Throat, and thoſe under the Ears, are more inflated than in common and accidental colds; and where a Horſe's conſtitution is good, and his blood no ways vitiated before, may be cured as other colds, only that his Head and Neck ought to be more carefully covered and kept warm, to promote a conſtant breathing in thoſe parts.

The ſigns of a malignant Cold.

About the end of the year 1732, there was a very remarkable diſtemper of this kind among the Horſes in *London*, and in ſeveral other parts of the kingdom. They were ſeiz'd ſuddenly with a vehement, dry, ſounding cough, which ſhook them ſo violently, that ſome of them were often ready

An epidemical Cold in the year 1732 deſcribed.

to drop down with hard ſtraining and want of breath; their Throats were raw and ſore, many of them had their Kernels ſwelled, and painful to the touch. For the firſt two days moſt of them refuſed all manner of food, as well as water, and had ſo many other bad ſigns, that when this diſtemper firſt broke out many were afraid of a mortality coming among them; and indeed the only good ſign they had was the vehemence of their cough, that both kept their blood in motion, and ſpeedily ſet them a running at the Noſe, which generally began the third day, and continued in ſo profuſe a manner for five or ſix days, that ſome of them in that time diſcharged as much as two or three pails would hold of purulent matter, which however was generally of a laudable colour and good conſiſtence. While the running at their Noſes continued, they could not feed much, tho' their appetites were craving, becauſe the matter mingled ſo much with their food, as to render it altogether diſagreeable; ſo that they loſt their fleſh exceedingly: but this loſs of their fleſh proved a benefit to them rather than a detriment; and as ſoon as the running abated, they eat voraciouſly, and ſoon recovered their fleſh. This diſtemper, tho' no ways mortal, yet was ſo very catching, that when any Horſe was ſeized with it, I obſerved thoſe that ſtood on each hand of him were generally infected as ſoon as he began to run at the Noſe, in the ſame manner as the ſmall pox communicate the infection when they are upon the turn.

While this ſickneſs laſted, above a hundred of the troop Horſes under my care were ſeized with it. I always cauſed the ſick Horſes to be removed from the ſound, as ſoon as they were taken ill, and put by themſelves, as in an hoſpital. And in one troop of the Horſe Grenadiers we filled a ſtable of thirty-ſix ſtandings in three days, an infirmary of five ſtandings, and another of eighteen ſtandings, in three or four days more; nevertheleſs all of them recovered in a ſhort time. Alſo many gentlemens Horſes where I was concerned, did well, without any remaining taint from the diſtemper; and it was obſerveable, that ſome who had been ſubject to a dry cough before this ſickneſs, continued more free from it for ſome time afterwards, tho' I do not remember any of them were abſolutely cured of this defect, notwithſtanding their great purgation from the noſe, which plainly ſhewed me the difficulty of removing an obſtinate dry cough, by the common and uſual means of promoting a diſcharge that way. The Horſes that chiefly eſcaped the diſtemper, were thoſe that had been kept in conſtant ſtrong exerciſe, or full aged old Horſes, many of which were no ways infected, tho' very much expoſed to it.

The

The method I followed in curing this malady was ſimple and eaſy; for having obſerved by their dung and manner of ſtaling, that neither the Stomach, Guts, or Kidneys, were in any degree injured, but only their Lungs and the Glands about their Throats very much ſtuffed, I ordered them, as ſoon as they were ſeized, to be bled plentifully, which gave them a ſenſible relief, for at firſt many of them were feveriſh and very ſhort-breathed; and by ſomewhat emptying their veſſels, helped the ſooner to bring on the running at their Noſes, which in a Horſe anſwers the ſame end as expectoration in a man. Afterwards I gave them ſoft balſamicks, mixed with deterſives, which are always neceſſary for Horſes, becauſe they require more pungent and ſtimulating medicines than men, their fibres being more ſtrong and rigid; and therefore the following drinks were generally adminiſtered with good ſucceſs, *viz.* The method obſerved in curing this malignant cold.

Coltsfoot, Hyſſop, and Chamomile Flowers, of each a handful; freſh Linſeed and Garlick, of each an ounce; Liquorice-root cut into thin ſlices the ſame quantity; of Saffron half an ounce infuſed in two quarts of boiling Water; one half for the morning, and the other for the afternoon.

With theſe were given balls made of the warm aromatick pectoral powders, mixed with Honey, Balſam of Sulphur, and Oil of Aniſeed. And in caſes where the phlegm appeared to be more than ordinary tough and viſcid, a ſmall portion of about four ounces of Lintſeed Oil was added to ſome of their drinks; and in ſome caſes it was neceſſary to give about half a pint of white Wine, with a few ounces of Oxymel of ſquills. I did not perceive any of them coſtive, or very hot and feveriſh, after they took to run at their Noſes, otherwiſe it would have been alſo neceſſary to have adminiſtered emollient glyſters. And therefore as ſoon as they looked lively and eat up their allowance, which was chiefly ſcalded bran and hay, I left off the uſe of medicines, and allowed them plenty of water, which had a good effect in thinning and diluting their Blood, which was extremely fizy; and the cure was perfected by air and moderate exerciſe.

The continuance of this diſtemper among our Horſes was but ſhort. It began in ſome places in the county, near *London*, about the middle of *September*; for I did not hear it was univerſal over the whole kingdom; and in *London* it began in *October*, the weather being unuſually foggy, but was quite over in about ſix weeks or two months, and made ſo ſwift a progreſs, that in the ſpace of one week, there was ſcarce a ſtable without the This diſtemper of ſhort continuance.

the infection; ſome Horſes were perfectly recovered in a week or ten days, ſome in a fortnight, and few continued under it longer than three weeks, or a month, before they recovered their fleſh, and their uſual ſtrength and vigour; and I obſerved ſcarce any did amiſs, except ſuch as had been unſkilfully treated, by cleaning and ſyringing their Noſes with ſharp ſtimulating things, which by irritating thoſe parts too much, brought a continued running of purulent matter on ſome that could not be ſtopped, afterwards with ſwellings under their Jaws, which ended in a waſte and rottenneſs; whereas if they had been left more to nature, ſcarce any of them would have done amiſs: but I have known the ſame thing happen in a common cold, and in the ſtrangles, eſpecially when they have met with the like treatment, as will be ſhewn more fully when I come to treat of thoſe diſtempers.

An epidemical fever among Horſes in the year 1734.

ABOUT two years after this, *viz.* in 1734, another epidemical diſtemper happened in the ſpring, that proved more fatal than this, tho' by reaſon of its ſhort continuance, was much leſs taken notice of than the firſt; for many Horſes recovered ſo far as to be out of danger in two or three days. In the one the Horſes coughed ſo vehemently in the ſtreets, and many of the hackney-coach Horſes and cart Horſes, that were obliged to work, had their Noſes in ſo naſty a condition, and ſo much expoſed to open view, that they could not avoid being ſeen by every body. But this other diſtemper was not ſo univerſally talked of, tho' vaſt numbers were ſeized with it, and ſome died ſuddenly of it. In one week I had near a hundred of the Guard and Grenadier Horſes, beſides many belonging to gentlemen, taken ſo bad, and with ſuch violent ſymptoms, that I was at firſt afraid of its proving very dangerous; but of the great numbers that were under my care, not one did amiſs.

This fever deſcribed.

THEY were ſeized ſuddenly with a very hot burning fever, and their fleſh apparently ſeemed ſo ſore and tender, that they could ſcarce bear to be touched; they were generally coſtive, ſtaled but little, and that with pain and ſtraining, and of a very high colour. They refuſed all manner of ſuſtenance, and were ſo extremely ſick, that they would not drink; neither did I perceive any of them offer to lie down till their diſtemper came to a criſis: upon treating them with cooling and opening medicines, and with plentiful bleeding, they generally recovered.

I was confirmed in this method by ſeveral ſymptoms that appeared upon the turn of the diſtemper, ſome of them having very hot and inflamed eruptions, which broke out in ſeveral parts with bliſters, reſembling the St. *Anthony*'s Fire. Thoſe that came to maturity, appeared generally on the

the inſide of the Arm or Fore-Leg, near the Elbow or towards the Hock, and ſome of them had ſeveral large bags of water that gathered on the ſides of their Bellies, or towards their Flanks, near the inguinal Glands, which the farriers called a water farcy, but indeed, was the effect of a very hot inflamed Blood. Some had been coſtive before this diſtemper ſeized them, for their Dung was extremely hard and black.

The Cure. In this caſe ſoft and oily glyſters were made uſe of to relax their Bowels, and in ſome the bleeding was repeated, cooling infuſions, with ſal prunella; cream of tartar, ſaffron, and ſuch like things were alſo given, to open them both by dung and urine, and by that means to abate the heat and effervesſence of their Blood, which not only took off their fevers, but cauſed the critical diſcharges from the boils, which at firſt had but a very indifferent aſpect, to digeſt into good matter, without leaving any taint behind them; ſo that none of the Horſes that were treated in this manner did amiſs, and where ſome died in the hands of unſkilful perſons, it was generally owing to their giving them hot inflaming things under the notion of cordials; and cloying them with ſugar-ſops before their fevers were abated, and their Stomachs in a condition to receive food. And indeed this is the true reaſon why ſo many Horſes miſcarry in fevers, becauſe moſt people are apt to force them to feed, by adminiſtring food with a horn, when it is altogether improper, neglecting to bleed ſufficiently in the beginning, giving hot medicines inwardly, with wines and other ſpirituous liquors, which only add fewel to the fire; which things are always pernicious in inflammatory diſtempers, eſpecially to Horſes that are uſed to a ſimple diet.

Why ſo many Horſes miſcarry in ſuch Diſtempers.

This Diſtemper alſo of ſhort continuance. This diſtemper did not continue in its full force in *London*, above three weeks or a month, and thoſe that were ſeized about the latter part of that time had it more favourably, and required little more than bleeding. Thoſe that looked any ways ſurfeited were purged, and had antimonial powders given them, which generally perfected their cure, and ſome were ſent to the ſalt marſhes, or other ſpring graſs, the ſickneſs happening juſt before the graſs ſeaſon.

I have known ſingle Horſes ſeiz'd with the ſame ſymptoms at other times, when the diſtemper was neither infectious nor epidemical, and theſe were always ſucceſsfully relieved with bleeding and other evacuations, eſpecially with diureticks and diluters, giving them plenty of water-gruel, or white water.

The Strangles is a diſtemper that almoſt all Horſes are ſubject to, at one time or another, eſpecially when they are young, but ſometimes it is very rife, and may be ranked among their epidemical diſeaſes, and then it ſeizes both

both young and old that have not had it before, and is ſomewhat infectious, tho' for the moſt part the Strangles are no ways catching. But in this caſe they are uſually attended with a fever, loſs of appetite, and other ſymptoms of a malignant nature. But theſe things will be treated of more fully hereafter. See IVES and STRANGLES.

Spring Colds.

IN ſome ſeaſons the ſpring colds among the young Horſes, are accompany'd with an epidemical fever, eſpecially about the time of ſhedding their Teeth, and putting out of their Tuſhes; and without ſome care and diligence be uſed, theſe colds are apt to leave an ugly taint behind them, a continuance of the cough, or a relaxation of the Kernels under the Jaws, with a too great moiſture and ſnottineſs of the Noſe, which ſometimes turns to the Glanders.

The Glanders almoſt always infectious.

THE Glanders is always reckoned an infectious diſtemper, but I have known this malady ſometimes more frequent than uſual, with the ſymptoms of very great malignity in the Blood. When this happens, it is more than ordinarily infectious, makes a ſudden progreſs, and ſoon ends in a rot, and is extremely dangerous to all Horſes that come within the ſcent of their Breath, or into the ſtable where they ſtood until it has been carefully clean'd and well air'd.

The Farcy ſometimes catching and infectious.

THE Farcy is ſeldom reckoned infectious, for it is often cur'd without removing the diſeaſed Horſe from the ſound Horſes that ſtand with him; the reaſon of which will be ſhewn, when I come to treat of that diſtemper. But the ſymptoms of the Farcy often appear in ſome kind of epidemical fevers, when it is indeed infectious, and makes a quick progreſs on every Horſe that is ſeized with it, ſpreading univerſally over the whole Body, forming deep abſceſſes among the Interſtices of the larger Muſcles, diſcharging great quantities of corrupt fœtid matter, reſembling the grounds of beer. In the time of contagious fevers, ſuch inſtances are ſometimes to be met with, where by reaſon of a more than ordinary malignity in the Blood, or ſome ill treatment, or ſome unfriendly diſpoſition of the air, all the common ſymptoms of a degenerate Farcy will ariſe; and this makes ſome afraid of every appearance of the farcy, as being infectious; but in ſuch caſes it may be more properly termed an univerſal rot than a farcy, and for the moſt part proves deadly; and if any means are uſed, they ought to be ſuch as are proper in peſtilential diſtempers.

An Epidemical Diſtemper that happened to ſome

ABOUT eight years ago, ſeveral young Horſes were ſuddenly ſeized with the ſtaggers, attended with ſuch uncommon ſymptoms, as put the ordinary practitioners quite to a ſtand. One thing was viſible to every body, that their Heads were greatly diſordered, by which moſt of them more or leſs,

loſt the uſe of their Limbs; ſome were only cramped and convulſed in a moderate degree, and were ſoon relieved by bleeding, and ſome few cephalick medicines, with rubbing and proper embrocations; in others this new diſtemper ſeemed to have a near affinity to a Hemiplegia, *viz.* that ſort of palſy, which in men, takes away the uſe of one ſide, but not to ſuch a deadneſs as happens to the human body.

A very extraordinary caſe, which reſembled an *Hemiplegia*, or dead Palſy.

I HAD one Horſe was ſo bad, that when he came to be moved, he was held up on the affected ſide by ſeveral men, who were forced to ſupport his whole weight. When he was let looſe in a riding-houſe, to ſee his motions, he turned round like a perſon in a vertigo, and fell down ſuddenly; but this rotation or turning round did not proceed altogether from the cauſes which uſually produce the vertigo in men, but from his wanting the uſe of his Limbs on the off ſide, which made him turn round to his near ſide, the Limbs of his near ſide being no ways affected, but firm, which was the reaſon of his circular motion, for he could not get ſtreight forward for want of uſe in the other. Several Horſes were taken in the ſame manner, but in a lower degree, and ſome were convulſed, and had their Mouths ſomewhat pulled to one ſide, but were ſoon relieved; for thoſe that were only convulſed in this manner, retained ſomewhat of an appetite to feed, which greatly contributed to their cure. Another remarkable caſe happened at this time, of a Horſe that was ſo much convulſed, that whenever he offered to raiſe his Head in the leaſt degree, nothing could be ſeen of his Eyes but the whites, which made him look very ghaſtly; but as this Horſe had alſo a ſtrong fever, and was affected on both ſides alike, ſo he never loſt the uſe of his Limbs, but only went ſtaggering, and with a catching from the convulſive cramps. This Horſe recovered with bleeding, and other plentiful evacuations, and the conſtant uſe of cephalicks, which were given him in great plenty, eſpecially the Caſtor, which had ſuch an effect upon him, that it kept him breathing above three weeks without intermiſſion, in ſo much that all his cloaths and the whole ſtable was perfumed by it; and if theſe things were but one day omitted, while the convulſions laſted, the Horſe always fell back, and was the worſe for it; ſo that he muſt inevitably have died in the hands of any common practitioner, none of whom I ever knew treat convulſed Horſes after this manner.

Another caſe of the ſame kind, but with different ſymptoms.

The method followed in curing theſe maladies.

AS to the Horſes that were affected on one Side only, their lameneſs was more apparent, ſo that I cauſed them to be put into cloſe ſtalls, and littered quite up to their Bellies; and alſo a good quantity of ſtraw to be piled up againſt the wall or partition next the lame Side, that they might reſt upon it, and not be expoſed to fall down. One gentleman, who had a

very fine Horſe ſeized with this diſtemper, ordered the whole ſide of the ſtall to be lined with a tripple baſs matting, and his litter was ſpread all acroſs the ſtable, pretty deep, from the end of the ſtanding; which method was followed with moſt others that were under my care, and affected in the ſame manner, that they might not hurt themſelves in caſe they ſhou'd move backwards and fall down, but lye eaſy till they were helped up, for ſcarce any of them were able to riſe of themſelves. But moſt of theſe Horſes leaned their lame Sides altogether againſt the ſtall, without moving their poſture, till they had pretty well recovered the uſe of their Limbs, which generally happened to ſome in about ten or twelve days; others that were leſs affected, recovered much ſooner, ſo as to be able to ſtand without leaning.

THESE had all of them fevers when they were firſt ſeized, which is an uſual attendant on convulſive diſorders. But after bleeding and other evacuations their fevers abated, and they began to feed on ſcalded bran, and pick a little hay by the hand, which was very helpful to them, and kept their Jaws ſtreight and pliable. They were bled plentifully, and had glyſters and lenitive purges, which to Horſes I always ſubſtitute inſtead of vomits, where the diſcharges of the firſt paſſage is required. They were at the ſame time plyed with cephalicks and proper embrocations outwardly, for which the reader may conſult Chap. I. & ſeq. where I have treated of all theſe diſtempers methodically, which derive their origins from the head and nerves.

The Staggers with the Yellows, ſometimes epidemical.

I SHALL conclude this ſubject of epidemical diſtempers, by taking notice, that the yellows and ſtaggers are ſometimes epidemical, there being many young Horſes ſeized with this malady, more remarkably in ſome ſeaſons than others, and generally about the end of the ſpring or the beginning of ſummer. This is no other than a bilious fever, and ſeems to be the ſame mentioned by the Sieur *de Solyſel*, Part II. Chap. XIII. under this title, viz. *Of the Diſeaſes of the Head cauſed by cholerick Humors*, which brought a great mortality among the Horſes in ſome parts of *France* and *Germany* in the year 1660 and 1661, and afterwards in 1669 and 1670. This is ſeldom univerſal or of long continuance among us, but where it comes, proves fatal to abundance of Horſes, for want of knowing the true origin and ſource from whence all theſe various ſymptoms ariſe, whereby the Head and the whole Body is ſo much affected.

CHAP.

CHAP. V.

Of Horſes Colds, and other diſeaſes of the Breaſt and glandulous parts about the Head and Throat.

I NEED not be very critical in deſcribing the nature of a cold, ſeeing every one has more or leſs ſome acquaintance with it, and the uſual ſymptoms that attend it. In colds perſpiration is obſtructed, whereby the pores and common outlets are ſo far ſhut up, that the perſpirable matter not having a free paſſage, cauſes a redundancy that commonly affects the Head, and the glandalous parts about the Neck and throat, as alſo the Lungs and other principal Viſcera; and in very ſevere colds, or where the Blood has been previouſly bad and vitiated, the whole body will be ſenſibly impreſſed by it, as may be obſerved from the ſtiffneſs and feebleneſs of the Limbs, and inaptitude to all motion, that frequently happens in ſuch caſes; and indeed there are few diſeaſes incident to the animal body, which may not more or leſs derive their origin from a cold.

IT would be endleſs to enumerate the many and various cauſes of colds, and I have already taken notice of ſome of them, eſpecially where I have treated of malignant and putrid fevers, which are often the effect of colds, of the worſt ſort; however, I ſhall repeat ſome of them again, that thoſe who keep many Horſes of value may be the better enabled to prevent their catching cold, as well as to cure them in proper time, before their colds degenerate into dangerous and fatal diſtempers.

THE moſt uſual cauſes of colds are riding Horſes till they are hot, and ſuffering them to ſtand in that condition where the air is cold and penetrating. Another very uſual cauſe of colds is, removing a Horſe out of a hot ſtable to ſtand in a cold one, and a cold taken this way will always be more violent, where a Horſe has been high fed and cloathed; and this is the reaſon why many Horſes catch very ſevere colds after they come out of the dealers hands. New-built ſtables are alſo dangerous before they have been well aired and ſeaſoned, and even old ſtables, when they have ſtood long empty and grown damp, are dangerous to tender delicate Horſes, that have been well kept. Many Horſes catch ſevere colds, attended with fevers and pleuretick diſorders, by leading them through deep ponds, while they are hot, and oftentimes by not carefully rubbing them down and

The cauſes of Horſes Colds.

drying off the ſweat when they come off journeys; riding late in the night air in cold damp weather, expoſes ſome Horſes to catch cold, that have not been accuſtomed to travel or work in the night. And oftentimes colds are owing to ſome particular temperament in the air, and ſo become epidemical colds, and may proceed from many other accidents, which would be too tedious here to relate.

The ſigns. THE ſigns are a cough, heavineſs and dulneſs, which are more or leſs according as the cold happens to be more or leſs ſevere; ſometimes the Eyes moiſt and watery, ſwelling of the Kernels about the Ears and under the Jaws, a gleeting at the Noſe; and when a cold happens to be violent a Horſe will be feveriſh and off his Stomach, will work at his Flanks, and loath hot meat, and refuſe his water. When theſe laſt ſymptoms appear, and the Eyes are very moiſt, and the Mouth ſlimy, the Ears and Feet cold, with an inward ſoreneſs, there is danger of a fever, and ſuch are generally of the malignant kind; but when a Horſe coughs ſtrong, eats ſcalded bran, and drinks warm water, it is a good ſign; or if a Horſe looks ſprightly and pricks up his Ears, and moves briſkly in his ſtall, though he loſe his appetite in ſome degree, there will be no great danger. It is alſo a good ſign when he dungs and ſtales freely, and without pain, when his coat does not ſtare, when his Skin feels kindly, and his mouth ſomewhat moiſt and not clamy; but when it is hot, dry and parched, there is danger of a fever, eſpecially, if along with theſe ſymptoms, he happens to be tucked up in his belly.

Young Horſes more ſubject to Colds than others. YOUNG Horſes are more ſubject to colds than thoſe that are full-aged or old; for the blood of young animals is more balſamick, and of a more coheſive and glutinous conſiſtence than afterwards, which, as has been obſerved, is neceſſary when they are growing; tho' this texture of the blood expoſes them more to colds and other diſorders. And ſome young Horſes are ſubject to a cough and a ſlight fever when they are breeding their Teeth, but eſpecially before they cut their Tuſhes, as I have often obſerved, to which the Lampaſs often gives relief; and if the ſtrangles happen at this time, the cure will for the moſt part be ſudden and perfect. Sometimes young Horſes cough pretty much in the beginning of the ſummer, when they are troubled with worms and botts, but whatever deſtroys the vermin cures the cough, or when the worms go off with the ſeaſon, the cough alſo ceaſes.

WHEN a Horſe has got a cold with a cough, ſnorts after it, and is not, or but little off his ſtomach, there will be no great need for medicines, but only to bleed him, keep him warm, and to give him ſome feeds of ſcalded bran; but if he feels hot, and refuſes his meat, it will be neceſſary

to bleed plentifully in the firſt place, and afterwards the following drink may be adminiſtered, which I have found efficacious in all common colds, even when Horſes have been feveriſh, as they often are in the beginning. The Cure.

Take Hyſop, Colts-foot, Pennyroyal, and Horehound, of each a handful; ſix cloves of freſh Garlick, peeled and cut ſmall; Linſeed, and freſh Aniſeeds, of each an ounce; Liquorice, half an ounce; Saffron, one dram; infuſe in two quarts of boiling water, cloſe covered: warm a quart of this infuſion, and diſſolve it in four ounces of Honey, to be given faſting; letting the Horſe ſtand two hours after it before he has meat or water.

For his diet, let him have the ſweeteſt and beſt hay, ſcalded bran, and his water warmed.

THERE are many forms of drinks for Horſes colds, made of pectoral and cooling herbs, as Scabious, Rochet, Agrimony; and the Carminative ſeeds, as the Aniſe, Coriander, Cumin, and moſt of the ingredients in the common Horſe-balls, given in wine or beer, which in ſimple colds often do ſervice. Others diſſolve one of the common cordial balls, and make a drink immediately, with a pint of warm ale or beer, which is the uſual method of moſt of the practitioners I have known. But this that I have preſcribed, not only conſiſts of pectoral and balſamick ingredients, but alſo thoſe that are attenuating and deterſive, which things are the moſt efficacious in Horſes colds, and, as I have often obſerved, bring them the ſooneſt to their ſtomachs.

A drink for a cold may be eaſily procured, almoſt in any place, only of two or three ounces of freſh aniſeeds, and a dram of ſaffron infuſed in hot water, and when the infuſion has ſtood till it is of a right warmth, to diſſolve in it a ſufficient quantity of honey, with two large ſpoonfuls of oil, a little white wine may alſo be added. This, with good nurſing will anſwer in moſt ſudden colds, where there has been no previous diſorder, and may be repeated as often as needful. The aniſeeds are cordial and pectoral, and ſeem to agree the beſt with Horſes of all other things of that kind, and are one of the principal ingredients in the common Horſe-balls now in uſe; which are made in the following manner, as they ſtand in *Markham*'s book, who aſcribes the invention of them to himſelf, though they are of a much older date, with ſome ſmall difference.

Take.

The common Horſe Balls.

Take Aniſeeds, Cumminſeeds, Fœnugreek, Carthamus ſeeds, Elicampane-root, Flower of Brimſtone, and brown Sugar Candy, of each two ounces, beaten and ſearſed very fine. Then take an ounce of the Juice of Liquorice, and diſſolve it in half a pint of white Wine. Then take three ounces of Syrup of Coltsfoot, Sallad Oil, and Honey, of each half a pint; let theſe be mixed with the former, and make them into a paſte, with a ſufficient quantity of Wheat Flower.

Those are mended as they ſtand in *Quincy*'s Diſpenſatory, under the title of *Paſta Hippiatra*, as follows,

Take Powder of Fœnugreek, Aniſeeds, Cumminſeeds, Carthamus, Elicampane, Coltsfoot, Flower of Brimſtone, of each three ounces; Juice of Liquorice, one ounce; Oil of Olives and Honey, of each eight ounces; *Genoa* Treacle, twelve ounces; Oil of Aniſeed, one ounce; mix all together, and with a pound and a half of Wheat Meal, or as much as is ſufficient; make it into a paſte, which roll into balls, about as big as a common waſh-ball.

In theſe there are three ounces of each of the principal ingredients, whereas in *Markham*'s, there are only two ounces. Theſe have alſo an addition of an ounce of Oil of Aniſeeds, which is a very great emendation, and indeed, has been in uſe above theſe forty years paſt, which is not in *Markham*'s; as alſo three ounces of dry'd Coltsfoot, in powder, inſtead of the Syrup. Yet I would adviſe any one who makes theſe balls, to diſſolve the Juice of Liquorice in white Wine, as *Markham* directs, which not only makes them more pleaſant and cordial, but helps them to keep the longer, and if half an ounce of Saffron be added, they will be much the better for it. The price of theſe balls have been much run down by grooms and farriers, who generally buy them of the druggiſts for a ſmaller price than they themſelves can make them, and therefore are for the moſt part compounded of bad ingredients. The ingredients ſhould all be new and freſh, otherwiſe they are good for little, being moſt of them the ſeeds of aromatick vegetables, which ſoon ſpoil if they are not kept very dry. Thoſe who make them for ſale, often leave out the Syrup of Coltsfoot, and put in ſome old fretted ſyrup, or the ſame quantity of common Treacle, inſtead of the Syrup of Coltsfoot, which is in *Markham*'s receipt, tho' the Coltsfoot in ſubſtance is much better; only it requires a great deal of care to dry it well in the ſhade, and after that a good deal of pounding to make it

it paſs the ſieve. They are no leſs apt to leave out the Carthamus ſeeds, which are alſo hard to pound, and their tough ſhells make the balls not look ſo fine and ſmooth to the Eye when broke; but this is a manifeſt loſs, the Carthamus being one of the beſt ingredients, for they help to free the Stomach and Guts from ſlime and naſtineſs, and by their deterſive quality open and promote the glandular diſcharges. Theſe balls when faithfully made, are of general uſe in diſtempers of the Stomach, Lungs, Liver, and other Viſcera as well as in colds; and tho' they cannot be truſted alone in many diſeaſes, yet they will do hurt in none, and may be often made uſe of as a common vehicle, to mix with things of greater efficacy, in caſes that require a more immediate relief than they can give.

In recent new colds they are often ſerviceable, and I have known many Horſes cured of ſuch colds without any other remedy. The Sulphur and Carthamus ſeeds make them proper where young Horſes are troubled with worms, attended with a cough, and if half an ounce of Æthiops Mineral be worked into a ball, with the help of a little Honey or Treacle, and repeated every morning, for ſeveral days, with warm water and maſhes of bran or malt, they will generally anſwer the end propoſed by them; eſpecially in caſe of worms, if the following drink be given after each ball.

Take Savin, one handful; Gentian-root, cut into ſlices, and Coroline, of each half an ounce; Liquorice, two drams; boil in three quarts of water to a quart; which is ſufficient for one drink, and may be repeated ſo long as the balls are adminiſtered.

The cough that attends the cutting of the Teeth is generally very ſtrong, and ſometimes obſtinate, and ſeldom goes off intirely until the Teeth are grown, tho' ſome Horſes breed their Teeth without any ſuch diſorder. If the Eyes are affected in breeding the Teeth, and the cough obſtinate, bleeding ought to be repeated. If the Lampaſs grow at the ſame time, and riſe higher than the Teeth, the Horſe will ſlabber and mangle his hay, but the ſafeſt way is not to meddle with them, either by inciſion or burning, as is commonly practiſed, becauſe that is often a great prejudice to the Eyes; neither is it proper to uſe mouth waters, or any thing that may repel and ſtop the diſcharge that the Lampaſs cauſes from the Mouth, but rather to promote it with ſcalded bran and warm gruel, until the ſwelling abates, which will happen as ſoon as the ſoreneſs of the Gums goes off, and this ſeldom continues above four or five days, or a week at fartheſt. If the Eyes are watry, and look thick, with a yellowiſh caſt, the Horſe ought

ought to be treated with the ſame things I have preſcribed for the cure of the Yellows; for this is a ſymptom that often proves the fore-runner of blindneſs, for which the Reader may alſo conſult what I have written concerning the diſeaſes of the Eyes, where theſe things are more particularly handled; and if the ſymptoms of a malignant fever appear, the Horſe muſt be treated accordingly.

I need not mention the great uſe of exerciſe in carrying off the remains of colds, as well as fevers and other diſtempers. However, a Horſe in this reſpect ſhould be carefully managed. For if he be much oppreſſed with his cold, as ſometimes happens in the beginning, even where there are no bad ſymptoms, exerciſe may prove hurtful, if not dangerous, till that oppreſſion is removed, by bleeding and other proper evacuations; and even then he ought not to be urged beyond his natural diſpoſition and ability, but as ſoon as he comes to feed heartily, and ſnorts after coughing, he may be exerciſed every day for an hour, or longer in any convenient place, which will haſten his recovery; and exerciſe always is a great help to thoſe that run at the Noſe, as it greatly furthers that diſcharge, and alſo helps the working of rowels, which are ſometimes neceſſary for Horſes that have colds, and are at the ſame time loaded with fleſh; for in ſuch caſes, repeated bleedings, and all other evacuations, are of great uſe.

Of the Strangles and Ives.

The Strangles compared by foreigners to the ſmall pox in men.

THE *French* and other foreign writers have compared the Strangles in Horſes to the ſmall pox in men; and as the ſmall pox is more incident to children than to grown perſons, ſo it has been obſerved by theſe writers, that the Strangles chiefly affects Colts and young Horſes, when they catch inveterate colds; which is very true, for Horſes are ſeldom ſubject to the Strangles after ſix years old, tho' I have known ſome Horſes have this diſtemper at ſeven and eight, and ſometimes at nine or ten, tho' theſe inſtances are not very common. The Strangles is alſo ſaid to reſemble the ſmall pox in this, that it never ſeizes Horſes oftener than once; whereas many other diſtempers proceeding from common cauſes and accidents, will return as often as there are the proper cauſes to produce them. But however that be, it is certain the Strangles is a critical ſwelling, which when it breaks and impoſtumates, diſcharges ſomewhat obnoxious to the conſtitutions of young Horſes, by which they are uſually rendered more healthful than they were before.

THE Strangles begins with a ſwelling between the Jaw-Bones, ſometimes pretty low among the Muſcles of the Tongue, attended with great heat, pain, and inflammation, ſometimes to ſuch a degree, that a Horſe is ſcarce able to ſwallow till the tumour ripens and turns to matter. The Strangles deſcribed.

MANY Colts have the Strangles at graſs, which come to maturity and break making a very plentiful diſcharge, without any other help beſides what nature affords; tho' I have known in ſome a very great malignity, with a purulent running at the Noſe, which is often dangerous. And thoſe that eſcape the Strangles at graſs, for the moſt part are ſeized when they are firſt taken up and put to buſineſs; and we often obſerve the change of diet, the alteration of air, and exerciſe, bring on the Strangles. Other cauſes may be, their catching cold, their ſhedding their Teeth, or whatever may induce pain, or bring a flux of humours at any critical time upon the Throat and Jaws. The cauſe.

WHEN the Strangles are coming upon a Horſe, he feels unuſually hot, and ſometimes very feveriſh, with a painful cough; ſome go quite off their ſtomachs, others are only dainty, or eat and drink with pain in chewing and ſwallowing. When the ſwelling begins on the inſide of the Jaw-Bone, it is much longer in coming to maturity than when it begins more towards the middle. When the ſkin is tight and much ſtretched over the ſwelling, and that feels ſtarky, dry, and hot, the ſwelling will in that caſe be large before it breaks, and make a plentiful diſcharge. When the ſwelling of the Strangles riſes between the Jaw-Bones, under the middle of the Tongue, it is always the moſt favourable; but if it riſes upwards among the Glands, and is divided in ſeveral little tumours, it is not ſo kindly, but is apt to break in ſeveral places and at different times before it ſinks, which renders it more tedious and troubleſome than when it breaks and diſcharges all at once. When the Strangles begin directly in the upper part of the Throat, towards the head of the Windpipe and Gullet, it hinders a Horſe ſometimes from ſwallowing for ſeveral days, until the tumor grows full and large outwardly. This degree of the Strangles is not altogether without danger of a ſuffocation. The preſſure made upon the head of the Windpipe, makes the Horſe's Eyes look fixed, as if he was convulſed, with his Noſe turned outwards, and his Noſtrils open for want of breath, which ſymptom continues till the tumor grows ripe, and then it breaks and runs off. But the worſt and moſt dangerous kind of Strangles, is when at the ſame time a Horſe is ſwelled under the Jaws, he runs alſo at the Noſe, which is either the effect of ſome degree of malignity in the Blood, or is cauſed by ill management; and this is what ſome call the falſe or baſtard Strangles. The ſigns and diagnoſticks. Symptoms dangerous in the Strangles.

The Cure. THIS diſtemper ſeldom proves dangerous, unleſs people are too buſy, and make too great an apparatus in the cure, for doing much in this caſe, is worſe than doing too little, for the Strangles ſeldom needs any other help than to aſſiſt nature, which is eaſily done, by keeping the ſwelling always moiſt with ointment of Marſhmallows, this being the moſt proper of all other things, being compoſed of a mucilage of Marſhmallow Roots, Linſeed, and Fenugreek Seeds, Neats-foot Oil, with Roſin, Turpentine, and Bees Wax. It is emollient, warm and ſuppurative, and therefore ſoon brings ſuch critical tumors to maturity. This is what I always make uſe of in common caſes, and never fail of ſucceſs.

Poultices often hurtful in the Strangles. SOME uſe Poultices to ripen the Strangles; but beſides the trouble of applying them, and renewing them often, they frequently prove hurtful, by drawing too violently, and bringing too great a flux of humors upon the part. On the other hand, if the poultices are not kept cloſe, they are apt to ſtrike a damp and chillneſs into the part, which repels the humors, and drives them back again into the refluent Blood, and this often leaves a dry, hard, obſtinate cough, or indangers a Horſe's Eyes. Another error in the cure of the Strangles, is opening the tumor before it comes to maturity, which greatly defeats nature, for the matter not being ripened before inciſion, breeds hard, callous ſwellings under the Throat, with a gleeting ulcer, and as nature ſtrives to get clear of her burden every way, there often follows a plentiful running at the Noſe, that without very great care, will end in a rot, of which I have ſeen ſeveral inſtances. Therefore if the Strangles prove kindly, and without uncommon ſymptoms, there is no need of any other application, beſides keeping the part continually moiſt with the above-mentioned ointments, till the tumor breaks and diſcharges itſelf, which for the moſt part happens in about five or ſix days; ſome open the tumors, or widen the orifice with tents, but this is altogether unneceſſary, and often injurious, for nature does the buſineſs here effectually, unleſs the matter has been repelled by ſome improper application, or other ill management.

Other Errors in the Cure of the Strangles.

IF the Strangles begin with great pain and inflammation, as ſometimes happens; if the Horſe's Eyes are fix'd, and look convulſed, and his Neck about the onſet much ſwoln, and his Jaws ſtiff, with his Noſe turn'd outwards; it is then neceſſary to take away a moderate quantity of Blood, to anoint the part well, and cover it firſt with a thin woollen cloth, and then the whole Head and Neck with a warm hood, anointing the ſwelling as often as it turns dry, until it comes to maturity and breaks. Where the inflammation is ſo great, as in this caſe, it commonly burns, and rots the Skin that incloſes the matter, by which means it falls off in pieces, like an eſchar made

made by a cauſtick, and lays all open between the interſtices of the Muſcles, and around the contiguous Glands; but here alſo nature effectuates a cure, without any other help, beſides what has been already recommended, for the waſte is ſoon repair'd by a new growth, covered with Skin and Hair, as perfect as at firſt. Sometimes the Strangles break inwardly, and the matter is diſcharged chiefly by the Mouth; and when it is ſo, the Horſe's Mouth may be waſhed once or twice a day, with equal parts of white wine vinegar, and ſpirit of wine, with a ſpoonful of honey to each pint; this with warm ſoft diet, will perfect the cure without any other help, and the ſwelling on the outſide will ſoon wear off.

In ſome caſes where there is little ſwelling and inflammation, the Horſe will eat and drink without pain; and tho' there be a collection of matter, yet when it is ſmall, it ſometimes continues a pretty while without breaking, as I have frequently obſerved. Thoſe who have not patience to wait nature's time, may forward the diſcharge with a burning torch, in the ſame manner as in ſinging off the Hair from thoſe Horſes, that are rough and hairy about the Jaws. The fire in this caſe criſps the Skin, and cauſes the Fibres to divide eaſily, and break ſo as to make way for the matter, or the tumor may be opened with the point of a ſmall hot iron, which is better and ſafer, than by inciſion with a cold ſharp inſtrument; taking care withal not to go too deep, ſo as to wound the ſound parts, which miſcarriages often do much harm, by inflaming the parts about the Larynx, &c.

Proper Diet in the Strangles.

In all ſtates of this diſtemper, the Horſe ſhould have ſcalded bran, and plenty of watergruel to dilute his Blood, and fit the matter the ſooner for a diſcharge. If the Strangles be attended with the ſymptoms of a malignant fever, which ſometimes happens, give him the following infuſion.

Take Rue Water, Germander, and Penny-Royal, of each a handful; Chamomile Flowers, half a handful; Bay Berries, half an ounce; Saffron, one Dram; infuſe in a quart of boiling Water all night, and give it in the morning, with a ſpoonful or two of Honey.

This may be repeated once or twice, till the tumor is ripe; after which there will be no farther occaſion for internals.

The ſame method may be followed to advantage, where there is a running at the Noſe along with the Strangles, which may be cauſed, either by a more than ordinary malignity in the diſtemper, or by over-heating a Horſe's Blood, when the malady has been but juſt begun and coming upon him. This ſymptom often proves dangerous, as I have already taken notice;

yet if the running at the Noſe goes off, as the tumor under the Jaws ripens, the Horſe with good management will do well. But if the tumor be dead, lifeleſs, and cold, without pain and inflammation, and can by no means be brought to maturity, the running at the Noſe will then increaſe, and weaken the Horſe exceedingly, and therefore all imaginable pains muſt be taken to ripen the ſwelling, either by the method already laid down, *viz.* burning with a lighted torch, or by cauſtick. But if notwithſtanding a diſcharge be made, the running at the Noſe ſtill continues, the iſſue will then be doubtful, and in this caſe, the likelieſt method to prevent a waſte and decay, would be by giving an ounce of Jeſuits Bark in powder, with about a pint of red Wine, and to repeat it three or four times, or oftner, if the Horſe be worth the expence. I have found decoctions of Guiacum, ſuch as are afterwards preſcrib'd in the cure of the Farcy, dry up the ſnottineſs that comes in this manner when taken in time; for by continuance, the Glands grow exceedingly relaxed and ſpungy, or on the other extreme, hard and ſchirrous: In both which caſes, the diſtemper becomes habitual, the inſide of the Noſe ulcerous, and in many reſpects reſembling the Glanders.

How the Diſtemper is to be managed when dangerous Symptoms ariſe.

I have frequently obſerved great benefit from the uſe of Guiacum, where the glandular diſcharges have been too liberal, and even in drying up ulcers of all kinds in Horſes. I had a fine Horſe committed to my care about ten years ago, that was ſent a journey in wet weather, the day after the Strangles broke. He run a gleet of water from under his Jaws, and a matter of the ſame conſiſtence at his Noſe, which had continued for ſeveral months, by which he was become quite extenuated, and exceeding weak, for the running under his Jaws was ſo profuſe, that the litter was continually wet under him. This Horſe was ſoon cur'd, and reſtor'd to perfect health and vigor, by ſtrong decoctions of Guiacum. But I believe ſuch caſes as this ſeldom happen, and very few Horſes would have ſtood it ſo long, but muſt in all likelihood have gone to the dogs, for he was naturally a Horſe of great ſpirit and vigor, which no doubt contributed very much to his recovery.

A very extraordinary Caſe.

I have ſeen ſeveral young Horſes, that have had little, ſmall looſe kernels under their Jaws, and have run at the Noſe a white, thick, mucilaginous matter, ſometimes more, ſometimes leſs, for a year or two, and ſometimes altogether free. In which caſe, the Guiacum decoctions made in the following manner are of great benefit.

Take Guiacum raſp'd, an ounce; a handful of Raiſins of the Sun, and about eight or ten large Figs; half an ounce of Florentine Orrice Root, Chio Turpentine, two ounces; with a pound of old ruſty Iron ty'd in a canvas

canvas Bag, boil in three quarts of Water to two quarts, give a pint every morning, or a pint and a half, or a quart in extreme caſes for a fortnight, and let the Horſe be kept in conſtant exerciſe in the free open air, which is a great help in all ſuch habits.

This is more commonly the effects of a weakly conſtitution, than of any real diſtemper, and may perhaps come, where the efforts of nature have been too weak to produce the Strangles in a ſalutary manner. The relax'd kernels are generally perceivable, when a Horſe is about four years old, and he begins to run at the Noſe when he is coming five. Some of theſe Horſes prove meer Jades, and thoſe that recover ſtrength, are ſeldom fit for much buſineſs, till they are ſeven or eight years old; and it is probable, many of thoſe that die young with inward impoſtumations, are of this kind.

Of the Ives.

The Ives deſcribed, and how diſtinguiſhed from the Strangles.

The Ives or Vives, as ſome call this diſtemper, has a near affinity to the ſtrangles. It is a ſwelling, and perhaps a ſlight inflammation of the Glands or Kernels under the Ears of a Horſe. They ſeldom come to impoſtumations as the ſtrangles do, but perſpire and wear off gradually, and the pain and ſoreneſs often abates as in men, when the almonds of their ears are ſaid to be down, only by keeping the part warm and covered from the external cold. Sometimes the ſwelling of theſe Kernels continues for a week or a fortnight, and at laſt ſpreads downwards under the throat, and terminates in the ſtrangles, and then needs only to be treated as ſuch.

The cauſe of the Ives.

The ives, like the ſtrangles, is moſt incident to young Horſes, and uſually proceeds from the ſame cauſes, *viz.* their catching cold, their being overheated, or any ways over-worked about the time of ſhedding their Teeth, &c. A Horſe that has the ives rather coughs more and oftener than one that has only the ſtrangles, and has a no leſs difficulty in his ſwallow, occaſioned by the pain and tenderneſs of the Kernels, which in ſome is ſo ſenſible, that they can ſcarce indure to be touched about the Neck and Throat; and in ſome the Eyes look alſo ſwoln, tender, and watery; a fever, for the moſt part, alſo attends the ives, which is often of the malignant kind. And I have ſeen Horſes in this condition extremely ſick, and for a ſhort time, refuſe all manner of food: when this diſorder happens in ſhedding their Teeth, then their gums will appear rediſh and tumify'd all round their ſockets. The Lampaſs generally riſe at the ſame time, to a great degree,

A fever attends the Ives.

and

and reach beyond the edges of the upper teeth; all which concomitant ſymptoms excite pain, and make a Horſe very uneaſy. When theſe Glands, *viz.* the Ives, ſwell on a Horſe that is old or full-aged, it is a ſign of great malignity, and often of inward decay, which, for the moſt part, proves dangerous and therefore ought to be treated as other malignant diſtempers; but the ives in young Horſes requires a more ſimple treatment.

The Cure. THE cure is, in the firſt place, to anoint with marſhmallows, and to cover the Horſe's Head and Neck with warm cloathing. At the ſame time bleed in proportion to the Horſe's ſtrength, and repeat the bleeding in a day or two in a ſmaller quantity, if the fever continue violent, but if the Kernels inflame and ſwell, all imaginable pains ought to be taken to bring them to ſuppuration by frequent embrocations, and keeping warm: when the ſwelling drops downwards, under the Jaws, then the caſe admits of no difficulty, but muſt be treated as the ſtrangles.

The method of treating Ives, with regard to intervals. As to internals, the ſame method is to be followed as in colds, and the ſame opening diet, till the Horſe recovers his appetite; drinking water-gruel plentifully, is a great help in all ſuch caſes; with ſcalded bran; in his bran may be given ſulphur and honey with good effect, eſpecially if an ounce of ſal prunellæ be mixed with it once a day; and as ſoon as he gets fleſh, and has recovered his ſtrength, it will be proper to give him two or three mild purges. Purging is alſo ſometimes neceſſary after the ſtrangles, eſpecially in ſuch caſes where Nature has been ſtriving different ways, to eaſe herſelf of her burden; and that the Horſe looks ſurfeited or hide-bound; though this ſeldom happens but where there has been ſome previous ill habit, ſome ill management, or a more than ordinary malignity in the diſtemper: for in moſt caſes, the ſtrangles are ſo kindly, that Horſes generally thrive better after they are over than before, and need no other phyſick to alter or purify their Blood.

Of a Pleuriſy and Peripneumony.

I HAVE not found a pleuriſy or peripneumony, ſcarce ſo much as mentioned by the writers on the ſubject of farriery, and not in the leaſt underſtood by the generality of practitioners, though it will appear manifeſt from what I have here to offer, that theſe diſtempers are not uncommon among Horſes as well as among men.

A Pleuriſy and Peripneumony defined. A pleuriſy is an inflammation of the Pleura, *viz.* the Membrane that lines the inſide of the Cheſt, and when the intercoſtal muſcles are inflamed, it is ſaid to be external. The pleuriſy generally ſeizes one ſide only, but

the peripneumony is an inflammation of the whole ſubſtance of the Lungs, and when that is violent, the pleura is alſo for the moſt part inflamed.

The cauſe. THE cauſe of a pleuriſy is often from hard riding, or hard work of any kind, when the Blood is ſizy, eſpecially young Horſes that have been high fed, and have had but little exerciſe; ſuffering a Horſe to cool too ſoon when he has been heated with exerciſe; riding a Horſe deep in cold water when he is hot; expoſing him to ſtand long in a ſharp cold or damp air, and ſuch like. The cauſes of a peripneumony are the ſame, only that in the latter there is generally a plethora, or ſome previous diſorder in the Lungs, or ſome very inveterate cold.

The ſigns of a Pleuriſy and Peripneumony not eaſily diſtinguiſhed in a Horſe. THE ſigns of a pleuriſy and peripneumony are alſo very much the ſame; only with this difference, that in a pleuriſy the Horſe ſhews great reſtleſsneſs and uneaſineſs, ſhifts about from place to place; the fever, which at firſt is moderate, riſes ſuddenly to a very high degree; in the beginning he often ſtrives to lye down, but ſtarts up again immediately, and frequently turns his Head towards the affected Side; which has cauſed many to miſtake a pleuretick diſorder for the gripes, this ſign being common to both, chiefly with this difference, that in the latter a Horſe frequently lies down and rolls: when the gripes are violent, he will alſo have convulſive twitches, his Eyes turned up, and his Limbs ſtretched out as if he was dying, his Ears and Feet ſometimes exceſſively hot, and ſometimes as cold as ice. He falls into profuſe ſweats, and then into cold damps; ſtrives often to ſtale and dung, but with great pain and difficulty, which ſymptoms generally continue till he has relief. But in a pleuriſy a Horſe's Ears and Feet are always burning hot, and his Mouth parched and dry; even ſometimes when he is near his end, his fever is continued and increaſing. And though in the beginning he makes many motions to lye down, yet afterwards, he reins back as far as his collar will permit, and makes not the leaſt offer to change his poſture, but ſtands panting with ſhort ſtops, and a diſpoſition to cough, till he has relief or drops down.

Often miſtaken by Practitioners for the Gripes.

How to avoid that error.

The ſigns of a Peripneumony, wherein the diſtemper chiefly differs from a Pleuriſy. IN a peripneumony, there are ſeveral of the ſame ſymptoms as in a pleuriſy, only in the beginning he is leſs active, and never offers to lye down, nor during the whole time of his ſickneſs. His fever is ſtrong; and whereas in a pleuriſy, a Horſe's mouth is generally parched and dry, in a peripneumony, when a Horſe's Mouth is opened, a roapy ſlime will, for the moſt part, run out in great abundance, and gleets at his Noſe, much in the ſame manner as has been deſcribed in a malignant fever, *viz.* a rediſh or yellowiſh gangred water, that ſticks like glue to the inſide of his Noſtrils. In a pleuriſy a Horſe heaves and works violently at his Flannks, with great reſtleſneſs,

reſtleſneſs, and for the moſt part his Belly is tucked up; but in a peripneumony he always ſhews fulneſs and the working of his Flanks regular, except after drinking, or when any thing is adminiſtered with a horn, or at any time when, through uneaſineſs, he goes to move his poſture, then the heaving is ſtronger and more vehement than at other times; his Ears and Feet are, for the moſt part, always cold, and often falls into damp ſweats, with other ſymptoms common to malignant diſtempers only, that they come more ſudden and violent.

The cure of a Pleuriſy and Peripneumony.

THE cure both of a pleuriſy and peripneumony is alſo the ſame, except where accidental ſymptoms may require ſome variation, for they often are conjoined and go together, and then it is not eaſy to diſtinguiſh the one from the other. Bleeding, and moſt other evacuations, are abſolutely neceſſary in all ſuch caſes. In the beginning a ſtrong Horſe may loſe three quarts of Blood at once, and the next day, if the ſymptoms continue violent, two quarts more may be taken from him; but if he be old, or has had any previous weakneſs, the beſt way is to bleed often, but take away a leſs quantity at a time: in ſuch caſes a Horſe may loſe a quart in the morning, and the ſame quantity in the afternoon, which may be repeated the next day and longer, if the ſymptoms ſo require. I have known ſeveral Horſes where repeated bleeding has been the chief part of the cure. Rowels are alſo of ſervice in pleuriſies and all inward inflammations; one on each ſide the Breaſt, one on the Belly, on the ſame ſide where he ſeems to complain, unleſs the motion of his Flanks be ſo great as to hinder its coming to digeſtion: in that caſe he may be rowelled on the inſide of both his Thighs; a bliſtering ointment alſo does great ſervice, rubbed all over his Briſket upon the foremoſt Ribs; it muſt be mild, and without any thing cauſtick or corroſive, beſides the Spaniſh flies, which will only make a revulſion, and not hinder his exerciſe, when that becomes neceſſary.

Rowels neceſſary in Pleuriſies, &c.

Proper internals in Pleuretick diſorders.

INTERNALLY, all thoſe things are proper that have been recommended in inveterate colds; eſpecially where there is a ſuſpicion of inflamed Lungs, or other inward inflammations of the parts contained within the Cheſt, ſuch as frequently happen in malignant fevers, only without the Virginia ſnakeweed, contrayerva, and other heating cordials, which are the more to be omitted, becauſe it is difficult to promote in a Horſe a ſudden Diaphoreſis, or to bring him into a kindly ſweat, until his body has been prepared for it, which would require too much time in caſes of ſuch immediate danger; and therefore I have always found ſoft oily balſamicks and coolers do the moſt ſervice, ſuch as theſe following, *viz.*

Take

Take Parmaſitty one ounce, rub it in a mortar with the yolk of a new laid egg; add to this half an ounce of Venice Turpentine, and incorporate them together; then take an ounce of Sal Prunellæ, or Salt Petre in powder Sugar of Lead, two drams; Saffron, half a dram; Chymical Oil of Aniſeeds, half a ſpoonful. Make the whole into one or two Balls, with a ſufficient quantity of Honey or ſyrup of Corn poppies, which is preferable to the Honey, and roll them in Liquorice powder.

Let theſe balls be given immediately with the following decoction.

Take Coltsfoot, Scabious, and Ground Ivy, of each a large handful; and Barley alſo a handful; the fatteſt and beſt Figs, cut in pieces, half a pound; Garlick two ounces; Horſe-radiſh and Aſſa-Fœtida, of each half an ounce; Saffron two drams. Boil in two quarts of water in a cloſe veſſel half an hour, pour off the decoction, and add to it a pint of Linſeed Oil, and a pound of Honey.

The balls are to be repeated twice a day or oftener, at firſt, with three or four hornfuls of this pectoral decoction, and in two or three days he will probably run at the Noſe, and begin to feed, which I have ſeen in ſeveral inſtances, eſpecially in ſuch caſes where the pleuriſy and peripneumony are joined together. And when this ſymptom appears, the balls and decoction may be continued till the running begins to abate, and that his appetite encreaſes; after that they may ſtill be continued once a day for a week, only leaving out the ſugar of Lead.

If he happens to be coſtive, and hot inwardly, he ought to have a cooling Glyſter once a day, made of fat broth, two quarts, a pound of treacle, and the ſame quantity of common linſeed oil; one of theſe may be given every day, or oftner if needful. Pot liquor, wherein beef or mutton has been boiled, makes a very good decoction for a glyſter; the ſalt in the pot liquor, being but little in quantity, will have no other effect, than to make it a ſmall matter purgative. The following may alſo be uſed, which is a good emollient, and more in form. Glyſters neceſſary.

Take Mallows and Marſhmallows, of each a handful; the herb Mercury and Chamomile Flowers, the ſame quantity; Fennel-ſeeds bruiſed, two ounces; boil in two quarts of water to three pints, then pour off the Decoction, and add a pint of Linſeed Oil, and a pound of common Moloſſus Treacle.

I HAVE known emollient glyſters have an extraordinary effect in many ſuch complaints, by fetching away great quantities of dung, pent up in the Bowels, by viſcid, ſlimy, or greaſy matter, as it is generally termed; which, if not the primary and original cauſe of the diſtemper, has had a great ſhare in aggravating all the ſymptoms that have attended it. But where none of theſe ſymptoms are apparent, and that the Horſe continues hot, reſtleſs, and ſhort-breathed, and refuſes to feed, notwithſtanding the things above preſcribed have been regularly complied with, recourſe muſt be had to bleeding, but not in ſuch large quantities as at firſt; purging glyſters are alſo neceſſary, with the continuence of the balls and drinks, adding to the decoction for the drinks half an ounce of Caſtor, and the ſame quantity of Gum Tragacanth or Gum Arabick alſo diſſolved in it. For a purging glyſter:

Take leaves of Senna, and roots of Marſhmallows, of each two ounces; ſweet Fennel ſeeds, bruiſed, and Bay Berries, of each an ounce. Boil in five pints of water to two quarts; clear off the decoction through a ſieve, and diſſolve in it four ounces of Lenitive Electuary; two ounces of Syrup of Buckthorn, with half a pint of Linſeed Oil; to be given with all expedition luke-warm.

THIS will purge a Horſe without much pain or griping; whereas the common glyſters made with Barbadoes Aloes and Bitter Apple, are apt to fret and inflame the bowels; and inſtead of giving relief in theſe acute inflammatory diſtempers, uſually aggravate the ſymptoms and make them worſe.

IF the Horſe grows cooler, and his pain more moderate, after the uſe of theſe things, you may repeat the glyſter the next day, unleſs he has purged much; in which caſe it will be better to intermit one day, and repeat it the day following; and if he comes to eat ſcalded bran, and pick his hay, you need only give him the firſt preſcribed pectoral drink every other day about four hornfuls, till he is fit to be walked abroad, and now and then one of the emollient glyſters. But after all, a Horſe ſeldom gets the better of pleuretick diſorders, unleſs he has relief in a few days, though I have known ſome hold it out longer in great pain and ſickneſs, and in the end do well, by attending carefully all the ſymptoms, and following the method I have here laid down.

But as pleuretick diſorders are more apt to leave ſome taint on the Lungs, than common colds or other inflammatory diſtempers, therefore a great deal of care muſt be taken upon his recovery, that his feeding be proper and in right quantity, and his exerciſe well timed. A Horſe ſhould be kept to a light open diet for a fortnight or three weeks, *viz.* a quartern of bran ſcalded every day, and beſides that, two or three ſmall feeds of the cleaneſt and ſweeteſt oats, ſprinkled with chamber-lye, and now and then in his bran a large ſpoonful of honey and ſulphur. Inſtead of the ſcalded bran, it will do well to give him ſometimes, for a change, about a quart of barley ſcalded, in a double infuſion of hot water, that it may be ſoftened, and the water may be given him to drink. His exerciſe ſhould be gradual, and increaſed as he gathers ſtrength, and always in an open free air, when the weather is favourable. If there be any remains of a cough, the air will be a great help to remove it with moderate exerciſe, and the remedies hereafter preſcribed for a dry cough may alſo be given at diſcretion. Purging is alſo proper after pleuretick diſorders, but then the purges ſhould be very gentle. The following is one of the mildeſt and beſt that can be uſed, which I can recommend as the moſt ſafe and efficacious in all ſuch caſes.

Pleuretick diſorders apt to leave a taint on the Lungs, &c.

How Horſes are to be managed in ſuch circumſtances.

Purging neceſſary after pleuriſies or peripneumonies.

Take the fineſt Aloes, an ounce; Indian Rhubarb and Salt of Tartar, of each two drams; Saffron, one dram; one middle-ſized Nutmeg, firſt grated, and then beat up with the other ingredients. Make into a ball, with a ſufficient quantity of Syrup of Buckthorn, and roll it in Liquorice powder.

This may be given with the uſual precautions neceſſary in purging; it will work gently without much ſickneſs or griping; in ſome I have known it work as briſkly as a ſtronger purge, where the Stomach and Bowels have been relaxed by indigeſtion, without any abatement of a Horſe's ſtrength; but, on the contrary, the Horſe has been more vigorous and lively than before, both during the operation and afterwards. This may be repeated three times at proper intervals, *viz.* once a week, and will help greatly to carry off the dregs and remains of the diſtemper.

There is beſides the internal Pleuriſy here treated of, alſo an *External Pleuriſy*, *viz.* an inflammation of the intercoſtal Muſcles, which compoſe the fleſhy parts between the Ribs. It proceeds from the ſame cauſe as the internal. It may be known by a ſtiffneſs of the Body, Shoulders, and Fore-Legs, ſometimes with a ſhort dry cough in the beginning, and a ſhrinking when a Horſe happens to be handled in thoſe parts; and perhaps

The external pleuriſy.

when not well cured, proves the original of that diſtemper which horſemen and farriers call a cheſt founder; for when the inflammation is gone off, and the viſcidity of the blood and juices ſtill remains, it may readily enough bring on ſuch ſtiffneſs and inactivity in the Muſcles as cannot eaſily be removed. But while it is only an external Pleuriſy, it is often carried off by bleeding, and pectoral drinks to promote the diſcharges from the Lungs, and afterwards purging, which is the likelieſt way to prevent its inflaming the Lungs and other internal parts, or making a ſettlement upon the Muſcles of the Breaſt and Shoulders, which is the moſt uſual conſequence; and therefore where there is any ſuſpicion of an external pleuriſy, outward applications are not always ſafe, unleſs when an outward ſwelling appears with a tendency to break, in which caſe the ſwelling and the parts about it may be anointed with Ointment of Marſh-Mallows, to haſten its ſuppuration. I have frequently ſeen theſe outward inflammations on the Fore-Ribs come to a favourable iſſue by falling downwards, and forming abſceſſes ſometimes on the inſide of the Fore-Leg, a little above the knee, between the interſtices of the Muſcles, and ſometimes, which is more troubleſome, on the inſide, near the onſet of the Shoulder; but never knew any evil accident happen, but when repellers were indiſcreetly uſed. On the contrary, a critical diſcharge from thoſe parts promotes health and prevents lameneſs.

There is yet another diſtemper which comes under the ſame claſs, which in the human body is called a *Paraphrinitis*, being an inflammation of the lower part of the *Mediaſtinum*, or Membrane that ſeparates the two lobes of the Lungs, and often an inflammation of the Midriff, and takes its name from Φρὴν, which ſignifies the mind, the ancients giving that name to the Diaphragm or Midriff, becauſe an inflammation of the Midriff was uſually attended with delirium and convulſions, which ſymptoms are owing to the infinite number of branches of the Phrenick Nerves, that are diſplayed all over it, and are neceſſary for its continual motion. Horſes are frequently ſubject to inflammations of the Midriff (or ſkirt as it is called by the vulgar) which however are not to be diſtinguiſhed in them from a Pleuriſy or Peripneumony, and may be treated in the ſame manner, only in this, that when the Midriff is greatly inflamed, a Horſe will ſometimes be jaw-ſet, and his Mouth ſo much ſhut up, that nothing neither of phyſick or ſuſtenance can be got into it; of which I ſaw an inſtance lately, in a Horſe belonging to a perſon of the firſt rank, where both the Midriff, Lungs and *Mediaſtinum* were inflamed to a very great degree. The Lungs on their underſide were quite broke and mortified, and the lower part of the *Mediaſtinum*, and the whole ſubſtance of the Midriff were black,

its

its tendinous parts green, with livid ſpots all over the Guts; but the reader may conſult what has been ſaid concerning convulſions, where this matter is more fully handled.

By examining the carcaſes of dead Horſes, I have obſerved them to be ſubject to all the different kinds of a Pleuriſy and Peripneumony. I have ſeen matter found under the Pleura, on one ſide, make its way thro' that Membrane in great abundance into the cavity of the Cheſt, in colour and conſiſtence reſembling the grounds of beer. In Horſes that have died of a Peripneumony, and have not been ſufficiently bled in the beginning, I have ſeen the whole ſubſtance of the Lungs extremely black and full of gangrened water, and great quantities of Blood flow out of the aſcending and deſcending trunks of the large Blood-veſſels when cut, and in others ſeveral apoſtems and abſceſſes of different ſize formed both towards the ſurface and deep in the ſubſtance of the Lungs; but have never obſerved the Lungs in a Horſe adhering to the Pleura, as is frequent in Men, tho' I have ſeen many hydatical tumors or bliſters, which when broke, generally gives riſe to that coallition; but when Horſes receive ſuch injuries in their Lungs as to raiſe bliſters upon them, they will be apt either to prove mortal, or if they happen to be but ſmall, the buſineſs required of Horſes, which muſt keep their Lungs in ſtrong action, and their horizontal poſition will ſcarce admit their growing to any part of the Pleura.

The Peripneumonia Notha not eaſily diſtinguiſhed in a Horſe from the true.

Tho' the *Peripneumonia Notha*, or baſtard Peripneumony, is alſo cl.ſſed with theſe diſeaſes by the writers in phyſick, yet it is ſcarce to be diſtinguiſhed in a Horſe from a true Peripneumony, only in this, that there is great ſluggiſhneſs without much pain or fever, the *Peripneumonia Notha* proceeding from a pituitous ſizy Blood, where the whole ſubſtance thereof is turned to a viſcid ſerum, in which reſpect it alſo approaches near to an aſthma. As in men this diſtemper happens chiefly to old worn-out or broken conſtitutions, which ſometimes carries them off very ſuddenly, ſo in old Horſes that have alſo died ſuddenly, we may often obſerve, upon examining their intrails, ſcarce any thing like Blood, but the Blood-veſſels of their Lungs, where the Blood is generally moſt red and florid, filled and overcharged with a matter reſembling flower paſte, ſome parts of them flatulent and looſe, others ſhrunk and dried, or inclining to a Schirrus, which renders them incurable, and therefore it is unneceſſary to lay down any rules for that purpoſe. See Aſthma.

Of

Of a Cough and Aſthma;

The Cauſes of a ſettled Cough.

NOTHING has more perplexed the practitioners in farriery, than a ſettled cough, and often cauſes no ſmall anxiety and uneaſineſs in the owners of ſome fine Horſes that are ſubject to it while they conceived any hopes of a recovery, tho' Horſes that are inclined to a laſting continued Cough, without the other ſymptoms of a cold, frequently turn aſthmatick, broken winded, or conſumptive.

THE cauſe of a ſettled habitual Cough is ſometimes owing to colds, that have never been perfectly cured, ſometimes to a pleuriſy, peripneumony, or malignant fevers, that have left a taint upon the lungs, or other principal *Viſcera*, which produce tubercles, and hard ſchirrous ſubſtances, from whence an irregular circulation of the Blood in the Lungs, and the want of a free paſſage of the air, which in the conſequence, muſt naturally produce a Cough, and an inordinate working of the Flanks, as often as a Horſe is put upon any briſk action. Sometimes a ſettled Cough proceeds from little eroſions in thoſe parts, ſometimes only from a ſuperfluity of tough flegm, and mucilaginous juices, ſtuffing the Glands and Branches of the Windpipe, and ſometimes from Polipus's, or fleſhy ſubſtances, ingendred in the large Blood-Veſſels; all which hinder a free reſpiration, and excite Horſes to cough. Some Horſes are alſo ſubject to nervous Coughs, when the Nerves that are diſperſed on the Lungs and Midriff, happen to be clog'd or obſtructed; ſuch Horſes are apt to cough at uncertain times, and in ſuch a manner that ſhakes them violently while it laſts, but without any viſible diminution of health or ſtrength; and this may either be hereditary to ſome conſtitutions of Horſes, or may be induc'd by ill management of their food and exerciſe. But there is yet another cauſe of an obſtinate Cough, and which I imagine to be as frequent as any, and that is when the Lungs, or other principal *Viſcera* contained within the Cheſt, happen to be unuſually large, and tho' this may alſo be natural, yet I am perſuaded ſuch defects are often increas'd by foul feeding, and want of ſufficient exerciſe, or other error in diet, as haſty feeding a Horſe that is extremely poor and lean, to make him ſuddenly fat, by which an obſtinate incurable Cough, will readily be intail'd upon him, which proves to be the caſe of many Horſes that have been pamper'd for ſale, and what in the end expoſes them moſt of all other things to be broken winded; as will be ſhewn more particularly in the following Section.

The Signs and Diagnoſticks

Now when a Horſe has a ſettled Cough of any kind, the ſigns and diagnoſticks are carefully to be obſerved; that is, in what manner one kind of

Cough

Cough is to be diſtinguiſhed from another, for without that, it is impoſſible to fall upon a likely method of cure, tho' it is almoſt needleſs in ſome caſes to attempt it, as will ſufficiently appear from what is further to be ſaid on this ſubject. noſticks to be c refal'y obſerv'd.

If a Horſe's cough is of a long ſtanding, attended with loſs of appetite, waſting of the fleſh, and weakneſs, it betokens a conſumption. If it proceeds from Tubercles, or hard ſchirrous ſubſtances, a Horſe in this caſe, may feed as heartily as one that is ſound, while he lies ſtill in the ſtable, and look tolerably well to the eye, but whenever he is put upon any hard work, he will cough inceſſantly, and be in danger of a pleuriſy, peripneumony, or the jaundice, if the Liver be affected, and will always ſhew a troubled Flank. When the cough proceeds from flegm and mucilaginous matter, ſtuffing up the Veſſels of the Lungs, it may be diſtinguiſhed by theſe following ſigns; his Flanks have always a ſudden quick motion; he breathes thick, but not with his Noſtrils open as one in a fever, or a Horſe that is broken-winded; his cough is ſometimes dry and huſky, and ſometimes moiſt, before which, he wheeſes and rattles in his Throat, and ſometimes throws out of his Noſe or Mouth great gobs of white flegm, eſpecially after drinking, or when he begins or ends his exerciſe, which diſcharge commonly gives great relief. Some of theſe wheeſe and rattle to ſuch a degree, and are ſo thick-winded, that they can hardly be drag'd along at firſt, till they have been ſome time in the free open air, after which they uſually mend their pace, and will go on, and do their buſineſs beyond all expectation. Theſe are properly aſthmatick caſes, and ought to be diſtinguiſhed in their ſymptoms, from that purſiveneſs and difficulty of breathing we ſee in ſome Horſes upon foul feeding, or for want of due exerciſe, or in thoſe taken up from winter graſs. For in this latter caſe, it often proceeds from a low, poor diet, in places extremely wet and cold, by which perſpiration is much impair'd, and with the want of warmth and food, a Horſe grows weak and faint. But theſe ſymptoms wear off gradually, when he comes into better keeping. And when a Horſe blows and pants with being over fed, and with want of exerciſe, it may eaſily be cured, if taken in time, with a contrary management, becauſe we ſuppoſe, no rooted or fixed diſtemper in either of theſe caſes, only in the one, the want of good Blood and Spirits, and in the other, a heavy ſluggiſh Blood, with a plethora or fulneſs. How to diſtinguiſh the different kinds of a Cough.

But it is quite otherwiſe in a true confirm'd Aſthma, that indeed may have its fits and paroxiſms relieved, tho' it is ſeldom totally removed, whether it proceed from any of the cauſes abovementioned, or from a diſorder of the Nerves; in this latter caſe, a Horſe eats his meat heartily, hunts, and goes

goes thro' all his buſineſs with ſpirit and alacrity, appears well coated, and has all the other ſigns of perfect health, and yet he ſhall cough very often, and ſometimes inceſſantly without throwing any thing up, except that the extremity of the cough, ſometimes cauſes a little clear water diſtil from his Noſe by the force it puts upon the Glands; and tho' his cough is not directly periodical, but for the moſt part comes at uncertain times, yet ſome of theſe Horſes cough moſt in the morning, or after drinking, which will be more or leſs vehement upon the changes of the weather, or upon catching cold. This may properly be ſtil'd a Nervous Aſthma in a Horſe, as it chiefly affects the Nerves in the membranous parts of the Lungs and Midriff, *&c.* But when a Horſe coughs moſt after feeding, or after his water, it is often the forerunner of a broken wind.

I ſhall now proceed to the cure, wherein regard is to be had to the above deſcrib'd ſigns and diagnoſticks, for tho' all theſe diſtempers may take their riſe from the ſame original cauſe, ſuch as catching cold, or from ſome general defect, or exceſs of one kind or other, and muſt therefore have the ſame treatment as to univerſals, yet the natural conſtitutions of ſome Horſes, good or bad management, unforeſeen accidents, and the like, produce ſuch variations as require a different procedure, according as the conſtitution or ſymptoms happen to be different; and therefore, as in the firſt mentioned caſe, where the ſigns of a conſumption are manifeſt along with the cough, it muſt be treated as ſuch. See Consumption.

But as in the ſecond caſe, where the Horſe retains his ſtrength notwithſtanding his cough, is full of Fleſh, feeds, but has a quick motion in his Flanks, and flags when he is put to hard work, if a Horſe be full ag'd, and theſe ſymptoms of ſome continuance, the caſe may be looked upon as doubtful, if not incurable; for there is reaſon to ſuſpect indurations, and hard ſchirroſities in the Lungs, or other internal parts; if theſe are ſeated in the Liver, his Eyes, and the inſide of his Mouth will often look yellow, eſpecially after hard work, or riding, his Urine will be dark, and high-colour'd, and his Dung of a light pale green, and if the malady is ſeated near the Gall Pipe, the jaundice will probably follow; gentle and good uſage will avail moſt in all ſuch caſes.

The Cure. But if the Horſe be young, and falls into ſuch a habit after a cold, after long ſickneſs, or other accident, whereby it may be ſuſpected ſuch ſymptoms are coming upon him, one would make ſome trial to recover ſuch a Horſe, which may often meet with ſucceſs, if he be carefully managed, and proper medicines are regularly adminiſter'd; in order to this, I can recommend the following

following method. Firſt of all take a moderate quantity of Blood. The next day give him ſcalded Bran, and at night the following Ball.

Take Diapente, an ounce; Calomel that has been often ſublim'd and well prepared, two drams; make into a Ball, with a ſufficient quantity of Honey.

Let the Ball be repeated the next night, and let his Water be warm, neither ſuffer him to go into the wet. He ſhould be cloath'd both with head cloaths, and body cloaths, and well litter'd. His hay ſweet and dry, and I ſhould prefer water-gruel to water, or elſe the water ſoften'd with bran. His food ſhould be ſcalded bran, with a ſpoonful of honey in each feed. The morning after the ſecond mercurial ball, give the following Purge, if the Horſe be of a pretty ſtrong conſtitution.

Take fine Succotrine Aloes, ten drams; freſh Jallap in fine Powder, and Diaphoretick Antimony, of each two drams; Salt of Tartar, two drams; make it into a Ball with a ſufficient quantity of Syrup of Buckthorn; and about ſixty drops of Chymical Oil of Aniſeeds.

This is to be adminiſter'd in the morning, and the Horſe to be managed with all the precautions uſual in purging; once in five or ſix days the purge is to be repeated till he has taken three purges; and before each over night, one mercurial ball with Calomel, as above directed, taking all imaginable care that the Calomel be well prepared, and that the Horſe do not catch cold. After each purge give the following drink, which is proper where mercurial medicines are given, to prevent any ill effects that may proceed from thence.

Take of the Shavings or Raſpings of Guiacum Wood, half a pound; Raiſins of the Sun, four ounces; Coltsfoot, a large handful; ſlic'd Liquorice, half an ounce; boil in three quarts of Spring or River Water, to two quarts; pour off the Decoction, and diſſolve in it four ounces of Honey.

A proper diet-drink after mercurial Medicines.

Give one half in the morning after the purge has done working, and the other the morning following.

If you find after theſe things have been adminiſter'd, the Horſe grow better, and more able to indure exerciſe, you may be encouraged to proceed

further, in order to a more perfect recovery, by a conſtant uſe of milder mercurials, for which I can recommend the following balls, which by degrees will open thoſe obſtructions, that by their continuance cauſe indurations, and hard concretions in the Lungs.

Take Native Cinabar, or Cinabar of Antimony, half a pound; Gum Guiacum, four ounces; Myrrh and Gum Ammoniacum, of each two ounces; Liquorice Powder, three ounces; reduce the Cinabar into a fine Powder, rubbing it in a clean mortar by itſelf, till it is of a beautiful Red Colour, and that no gliſtning appears, the Myrrh, Gum Guiacum, and Ammoniacum, muſt be well pounded in a large Mortar, keeping the end of the Peſtle moiſten'd with Oil, and when theſe are thus pounded and incorporated, add the Cinabar and Liquorice Powder, and mix them well together with a ſufficient quantity of Honey, or Oximel of Squills, and make into Balls the bigneſs of a Pullet's Egg.

One of theſe to be given every morning, letting the Horſe ſtand without hay or water two hours before, and two hours after each ball.

These balls may be continued two or three months, during which time the Horſe may be rid or work'd as uſual: He may alſo have his ordinary feeds of oats, giving him now and then a little ſcalded bran, and in cold weather his water may juſt have the chill taken off. And this I have found the moſt likely way to cure all ſuch diſorders, before they have been deeply rooted; for the common pectorals avail but little in ſuch caſes, without ſuch powerful deobſtruents.

If the ſeat of the diſtemper be chiefly in the Liver, which may be known by the ſigns already deſcrib'd, *viz.* a yellowneſs of the Eyes, Mouth and Lips, the dung of a light colour, and the urine dark; a ſhort dry cough, with an inclination to drink often, a more than ordinary dulneſs and heavineſs, ſometimes rheums, with yellow clouds in the Eyes. Theſe ſymptoms may be eaſily removed if taken in time, if the Horſe be young, by the medicines preſcrib'd for the yellows and jaundice, with the uſe of the Cinabar balls; but all theſe caſes when of long continuance, are generally incurable, from whatever cauſe they proceed, whether from previous colds, ſickneſs, inward hurts, or any other accident, but moſt of all, when they take their riſe from the natural conſtitution, which may diſpoſe ſome Horſes more than others to ſuch maladies, and indeed ſchirrous tumors, ſometimes turn cancerous, in whatever glandulous part of the Body they happen to be ſituated.

Horses with ſuch infirmities, may hold out ſeveral years with little alteration, either for the better or the worſe, if they have not much to do, and are well uſed; but if they happen to be hard worked, or expoſed more than ordinary to the cold, they either fall into a fever and die ſuddenly, by impoſtumations, or turn in a great meaſure uſeleſs. Upon inſpecting the entrails of ſuch Horſes, I have ſeen the thin edges of the Lobs of their Lungs ſurrounded with tubercles, and knots of different hardneſs and of various ſizes, and ſometimes ulcerated, and with a cancereous ſmell and aſpect. In which caſe the cough has been increaſed, and the ſhortneſs of breath, and working of the flanks more violent, with the loſs of Fleſh; many of the ſame ſymptoms will alſo appear, where the Liver is ſchirrous: for as in that caſe it often produces a dropſical diſpoſition, eſpecially by long continuance; ſo the diſtention of the Liver, and fulneſs of the lower Belly, preſſes ſo upon the Midriff, as to hinder reſpiration, and cauſes a ſhort cough. I have often ſeen the Liver impoſtumated, but rarely a true ſchirrous Liver in a Horſe, becauſe when it is ſo, the owners are perhaps ſoon obliged to part with them, to go into ſome mean drudgery, where they quickly end their days, or if they have been favourites, turn them out to die in the open fields, after they have done what they could to recover them.

The caſe of Horſes that wheeze and rattle, and are thick-winded.

The next caſe of a ſettled cough and aſthma, where a Horſe is extremely thick-winded, wheezes and rattles in his Throat, &c. proves often very obſtinate, though not altogether ſo dangerous and incurable as the preceding; for, as this proceeds from a viſcidity of the blood, which fills the veſſels of the lungs with phlegm and mucilaginous juices, it may be very much helped, if not totally cured, unleſs a Horſe be old, or the diſtemper of a long ſtanding, ſo as to have ingendered grumes and polipuſes, which ſometimes cauſe ſuffocation, or breed ulcers in the Lungs; but if it be otherwiſe, that the Horſe is young, and has not been long under the diſtemper, I ſhould adviſe the following method: And firſt, if he be full of fleſh bleed plentifully, if low in fleſh more ſparingly, which may always be repeated whenever there is a more than ordinary oppreſſion and difficulty of breathing. Mercurials are alſo of great uſe in this caſe, as well as in the preceding, and therefore a mercurial ball may be given over night, with two drams of calomel, as above directed, to begin the cure, and the next morning the following mild purge.

Their Cure.

Take Gum Galbanum Ammoniacum, and Aſſa Fœtida, of each two drams; fine Succotrine Aloes, an ounce; Saffron, one dram. Pound the Gums, and incorporate them well together; reduce the Aloes and

Saffron into fine powder, and then pound them, and incorporate with the Gums, and make into a ball, with a ſufficient quantity of Syrup of Coltsfoot, or with Honey, adding two drams of Chymical Oil of Aniſeeds, and a dram of Oil of Amber, which may be rolled in Liquorice Powder.

THIS purge will work mildly, and thin the viſcid juices, open the breaſt, and ſometimes fetch away abundance of ſlime and naſtineſs out of the bowels, and likewiſe diſcharge a great deal of impurities by urine. The mercurial ball and purge may be repeated three times or oftner, at proper intervals, *viz.* once a week or ten days, which is ſufficient in adminiſtering alterative mild purges; for the uſual purges quickly repeated do hurt, by indangering inflammations in the Lungs, of Horſes full of Blood, which in this caſe is carefully to be avoided. He muſt be kept from being wet in any part; his water milk-warm, and the days of purging ſcalded bran with ſome ſmall feeds of oats; in the intermediate days, that is, the days between the purges, one of the following balls may be given every morning, with the uſual precautions, *viz.* by letting him faſt ſome time before and after.

Take the powders of Liquorice, Aniſeeds, Elicampagne, and flower of Brimſtone, of each four ounces; Saffron, dried with a moderate heat and made into powder half an ounce; [the beſt way to do this is to pull it aſunder, put it looſe in a paper bag, and hang it up in a dry air, and it will be fit to reduce into powder in twenty-four hours.] Juniper Berries pounded, two ounces; Garlick, two ounces. Beat the whole into a paſte, with a ſufficient quantity of Honey and Linſeed Oil, adding an ounce of the Chymical Oil of Aniſeeds.

THE doſe is the bigneſs of a pullet's Egg, made into a ball and rolled in liquorice powder.

OTHERS may be made with leſs trouble, which in all common caſes will be attended with good ſucceſs, and often effectuate a cure: ſuch as theſe,

Take Liquorice, Aniſeeds, and Elicampagne, of each four ounces; Juniper Berries pounded, two ounces; Garlick, one ounce; Balſam of Sulphur, with Oil of turpentine, and that made with Oil of Aniſeeds, of each an ounce; make into balls, with a ſufficient quantity of Oxymel of Squills.

THESE

These are proper when a Horſe wheezes, and continues thick winded, and with a cough, even when he has recovered his appetite after an obſtinate cold; they will ſeldom or never fail to do good ſervice, if the Horſe be free from a conſumption, and not old. Any of the abovementioned pectoral powders made into balls, with Barbadoes tar and honey, will alſo be uſeful in all ſuch caſes; Galbanum Ammoanicum, Aſſa Fœtida, and all other warm attenuating gums, are alſo of the greateſt ſervice; but nothing conduces more to the cure of a moiſt phelegmatick aſthma in a Horſe, than exerciſe in an open free air, when it is given with judgment, inſomuch that many Horſes have been cured by this alone, without the helps of phyſick, even when they have been ſo bad, that upon their firſt ſetting off could hardly accompliſh one mile in the ſpace of an hour; and indeed, where exerciſe is wanting, all other endeavours, by the propereſt and beſt medicines will avail but little. And here all the general rules and cautions that have already been given, concerning feeding and exerciſe, either after ſickneſs or in any chronical diſtemper, ought carefully to be obſerved and followed, *viz.* that their exerciſe be, as much as poſſible, in the open free air; that it be proportioned to the Horſe's ſtrength and conſtitution, and particularly, that it be gradual, only walking while the oppreſſion remains, ſuffering him to mend his pace, not by force, but of his own accord; and I need not tell the intelligent reader, how far ſome wheezing thick-winded Horſes will be relieved in two or three hous exerciſe, when it is given judiciouſly.

The great benefit of exerciſe.

But beſides theſe general rules of exerciſe, there is this particular to be conſidered, with reſpect to a thick wind, when it is the effect of an aſthma, and is become a chronical diſtemper, which very much diſtinguiſhes this caſe from others; for as theſe are ſeldom off the ſtomach, but on the contrary, are for the moſt part foul feeders, and naturally robuſt and ſtrong, unleſs after a freſh cold or violent oppreſſive paroxiſm, except at ſuch times, they will endure exerciſe and labour, as well as Horſes that are perfectly ſound, if the perſons intruſted with them have ſkill and diſcretion enough to manage them; and the more they are kept to exerciſe, and the longer they are continued in it, the faſter they mend: whereas a Horſe after ſickneſs, being uſually faint and weak, and, for the moſt part, low in fleſh, is able to endure but little at firſt; perhaps to be walked a quarter of an hour, or half an hour, and ſo by degrees a longer ſpace, until he recovers his full ſtrength. This is ſufficiently known to all that have had experience in ſuch things; ſo that I need only take notice, that to prevent their being hurt by their exerciſe, their feeds ſhould be ſmall and often and well-timed; a

Bad winded Horſes often foul feeders.

Horſe

Horſe that is ſubject to inward oppreſſions and ſhort-breathed, ſhould never be ſuffered to have his belly-full, that is, to have his Stomach diſtended with large quantities of meat and water, for a diſtended Stomach will preſs ſo much upon the Midriff as to hinder reſpiration, and the quantity of food alſo increaſes the quantity of Blood in the Lungs, which muſt greatly increaſe the diſtemper, eſpecially if a Horſe happens to be exerciſed in this condition, muſt indanger a ſuffocation and ſudden death, or by breaking the ſmall Veſſels and Air-bladders of the Lungs, render him incurable and end in a lingering death. And therefore the beſt way with ſuch Horſes is to abridge their hay, and that alſo to be given in ſmall quantities, for large quantities of hay not only keeps the Stomach always diſtended, but the Guts next below the Stomach are generally full alſo of crude aliment, which greatly augments the preſſure upon the Midriff, and thereby hinders the action of the Lungs. Their corn ſhould alſo be divided, and what is uſually given at twice, made into three or four portions; and ſo likewiſe concerning their water: indeed water not only moiſtens all the food and helps it the eaſier to digeſt, but alſo dilutes and thins the blood, which renders it the more neceſſary in all ſuch aſthmatick caſes, that theſe maladies are in a great meaſure owing to the viſcidity and tenacity of the juices, and therefore thoſe run to great extremes who reſtrain Horſes ſo much from water as many do, and therefore they ſhould be ſuffered to drink oftner than others, only not to fill their Stomachs with it, as they would for the moſt part do, if they were allowed their full liberty, but to give them ſmall draughts and often; and the benefit of water is plainly viſible in this, that ſuch Horſes, often in drinking or ſoon after, throw up large quantities of white well concocted phlegm from their Lungs, which gives them great relief, and is always a good ſign, if not of perfect recovery, yet ſo far as to be uſeful. And I have known ſeveral Horſes have all theſe laſt deſcribed ſymptoms to ſuch a degree, and of ſo long continuance, that they were looked upon incurable, and yet have recovered to do good ſervice, and become their maſters chief favourites, with very little expence, only by a good œconomy in their feeding, and proper care in their exerciſe.

Reſtraining Horſes too much from water often injurious.

Of a Broken Wind.

THOUGH a dry ſettled cough and broken wind may properly be reckoned among the aſthmatick diſorders of Horſes, treated of in the preceding ſection, yet I imagined it might not be improper to conſider it apart from the others, there being ſome particulars in a broken wind that have

have not been taken notice of hitherto, which may, perhaps, be of uſe both to the owners of ſuch Horſes, and to the practitioners in farriery.

EVERY experienced perſon muſt needs know, that a dry chronical cough, is one of the moſt obſtinate ſymptoms that can happen to a Horſe, and is ſeldom or never cured. Sometimes it is the forerunner of a broken wind; though we often find great numbers of Horſes tormented many years with a dry ſettled cough, and go through much buſineſs, without touching their wind. A dry ſettled cough not always the forerunner of a broken wind.

A BROKEN wind, with a dry cough, is properly a nervous aſthma in a Horſe, and may proceed from any of the cauſes that produce the other ſpecies of that diſtemper, whereby the nervous parts of the Lungs and Midriff are affected, ſo as to ſtimulate the Glands and Membranes of the Wind-pipe, which muſt often excite a dry huſky cough. It may alſo be natural to the conſtitutions of ſome Horſes, and no ways owing to the cauſes that bring on other kinds of an aſthma, perhaps from the narrowneſs of the Thorax or Cheſt, whereby the Lungs have not ſufficient room for their neceſſary expanſion and dilatation, or from a defect in the Muſcles of the Cheſt and lower Belly, which aſſiſt in opening and contracting the Breaſt in reſpiration; ſometimes from the ſtate of the Blood and Nerves; and it may alſo proceed from accidents and hurts, in breaking young Colts, or even before they are taken up to be broke, from groſs feeding, whereby many Horſes are injured, and contract a dry ſettled cough, that were never known to have the leaſt ſickneſs or cold going before it. But the moſt uſual dry cough, which is the forerunner of a broken wind, generally proceeds from a preternatural largeneſs of the Heart, Pericardium, and Lungs, a groſſneſs of the Mediaſtinum, with a relaxation and weakneſs of the Midriff, which will be more fully explained in the ſequel of this diſcourſe. The cauſes of a broken wind.

THE chief ſigns and diagnoſticks, whereby a dry or nervous aſthma in Horſes is diſtinguiſhed from the other kinds, have been already laid down in the preceding ſection, *viz.* Horſes that are truly aſthmatick, from the abovementioned defects in their Lungs, or from a pituitious phlegmatick diſpoſition of their Blood, always ſhew ſome ſigns of diſtemper; whereas thoſe Horſes that have only a dry cough, or thoſe that uſually go broken-winded for the moſt part, look healthful and ſound, carry fleſh, and are well coated, hunt, and go through all manner of buſineſs with ſpirit and alacrity, but cough at uncertain times, ſometimes in the ſtable, ſometimes abroad in the air, and rather more in walking than when in their exerciſe, except when they are ſtopped ſuddenly, which, if they have been hard rode, always makes them cough. In ſome changes of the weather, they ſhall cough The ſigns and diagnoſticks.

pretty much for ſeveral days ſucceſſively; at other times they will go a week, a fortnight, or three weeks, and ſometimes much longer, without ever being heard to cough, or to ſhew any great diſorder in their Flanks. They ſeldom ſnort after coughing, or throw up any thing by the Mouth or Noſe, as Horſes do in a phlegmatick humorous aſthma, but are commonly dry, or at leaſt caſt forth nothing but ſome drops of clear water, after a vehement fit of coughing. Theſe are the ſigns by which we may diſtinguiſh between a phlegmatick aſthma and a dry cough, and the other diſorders that threaten a Horſe's wind; but the true nature and cauſes of this diſtemper will require a more full diſquiſition.

A broken wind for the moſt part incurable.

Now a broken wind is a malady in a great meaſure, if not altogether, incurable, whereof the dry cough that goes before, and continues more vehement when confirmed, is only a dependent ſymptom, for in a broken-winded Horſe there is ſeldom any remarkable diſtemperature in the Blood, or any inward tumor or ulceration; but chiefly a diſproportion in the parts concerned in reſpiration: and it may be obſerved of moſt broken-winded Horſes, that they are naturally as hardy as others, and ſeldom die of that diſtemper, but by ſome ill management, which indeed ſometimes expoſes them to ſuffocation and ſudden death; eſpecially when they happen to be haraſſed and uſed with violence while the oppreſſion is upon them, or when they are kept ſtoving in a hot ſtable at a full diet, in hot weather, without air and proper exerciſe.

Broken winded Horſes often found in their Vitals.

I have already taken notice that the ſymptoms obſervable in a broken wind, proceed from the preternatural largeneſs of the Heart, *Pericardium* or Heart-purſe; the largeneſs of the Lungs, thickneſs of the *Mediaſtinum*, and uſually an extreme thinneſs of the Midriff or ſkirt, and a defectiveneſs of the other Muſcles concerned in reſpiration. This I diſcovered by opening broken-winded Horſes, one of which was killed on purpoſe, at the deſire of a perſon of diſtinction, who was the owner, that I might be enabled to find out the true cauſe of a diſtemper ſo common, but hitherto ſo little underſtood. The Heart and Lungs in this and others that have been opened, were near twice the ſize they ought to be in proportion to the dimenſions of the other parts, but perfectly ſound without any tumor, or ſchirroſity, or the leaſt eroſion. Neither was there any defect in the Windpipe or its glands, as we often ſee in many thick-winded blowing Horſes, and in thoſe where the Lungs are decayed and ulcerated. However, I do not pretend to ſay that every Horſe that has the true ſymptoms of a broken wind is found in his Vitals, being perſuaded of the contrary; for there is no diſtemper of any kind but what may be ſometimes complicated

plicated with ſome other malady; but thoſe I have ſeen opened were not ſo. From whence it is plain we muſt find ſome other way to account for the ſymptoms of a broken wind, than the cauſes uſually aſſigned for it, and the rather becauſe many Horſes with unſound Lungs have not the true ſymptoms of a broken wind; tho' ſuch are often tormented with a cough, and with fits of ſhort breathing, and one may diſcern at all times in ſuch Horſes, ſome diſturbance and uneaſineſs in their Flanks; but very different from the working and heaving of a broken winded Horſe. Many of theſe Horſes are alſo but indifferent feeders, but broken-winded Horſes are commonly voracious and foul feeders, and even eat their litter, and never fail in their ſtomachs, except when their exerciſe has been too violent, or when they happen to be oppreſſed with the extreme heat of the weather in ſummer; which oppreſſion is ſometimes ſo great that they are unable to feed, till they are removed to ſome place where they can have more air. Horſes that have their Lungs or other principal Viſcera fretted and diſeaſed, are ſoon tired and jaded, even with moderate riding; but broken-winded Horſes always mend their pace with gentle exerciſe, and go on the more chearfully the longer they are kept moving. When a Horſe is any where inwardly unſound, he generally in time waſtes and loſes his fleſh, and ſome look ſurfeited and grow hide-bound. But many broken-winded Horſes continue in fleſh and as well coated as any other. And whenever we ſee a broken-winded Horſe with a ſurfeited coat, or loſe his fleſh very faſt, and fall off his ſtomach, except from the abovementioned cauſes of ill uſage or exceſſive hot weather, we may reaſonably conclude that he is alſo inwardly unſound.

Horſes that go broken-winded commonly voracious feeders.

The ſymptoms in broken-winded Horſes compared with thoſe that are otherwiſe diſtempered in their Lungs.

In a broken-winded Horſe the Lungs for the moſt part fill up the greateſt part of the cavity of the Cheſt, ſo as to hinder the action of the Midriff in the aſſiſtance it gives in reſpiration. By a Horſe's horizontal poſition the Stomach, which lies on a level with the Midriff, muſt alſo confine its action very much by its preſſure from behind, to which inconveniency men, by their erect poſture, are very little expoſed, except when the Stomach is extremely full and diſtended. The ſubſtance of the Lungs being alſo, in this caſe of a broken wind, more bulbous and fleſhy than uſual, muſt likewiſe loſe a great deal of that ſpring and elaſticity which is agreeable to their cartilaginous ſtructure, and which is neceſſary to act in concert with the Midriff, and with the Muſcles of the Breaſt and Lower Belly, in elevating and depreſſing the Thorax or Cheſt. The largeneſs and fleſhineſs of the Lungs may alſo be in a great meaſure, the cauſe why the inſpirations in a broken-winded Horſe are always more ſlow than the expira-

tions, for we may obſerve they draw in their breath ſlowly, their Flanks fill up, and riſe heavily and with difficulty; but fall ſuddenly, and the breath burſts forth with violent force, both from the Mouth and Noſtrils, in ſo much that a man in the dark by holding his hand on a Horſe's Mouth and Noſe, may eaſily diſcover if he is broken-winded or not. Now whether this unuſual ſize and configuration of the Lungs hinders their full expanſion, that they draw in leſs air, or that the fleſhineſs of their cells cauſes the air not to be ſo equally diſtributed through all parts as it ought to be; or, on the other hand, whether they draw in a greater portion of air than ordinary by reaſon of their ſize and dimenſions; whatever be the caſe, the length of time in inſpiration, and the continued elevation that accompanies it, keeps the Midriff and all the Muſcles concerned in inſpiration, ſo much upon the ſtretch, and ſo long extended in every inſpiration, as may exceedingly relax and weaken them, and alſo prove painful: Whereas the Muſcles concerned in expiration may become habitually contracted and ſhortened, and conſequently reſpiration irregular and convulſed, and therefore a broken wind in a Horſe may properly enough be defined, a convulſive diſpoſition of the Lungs, Midriff, and other parts concerned in reſpiration, and perhaps only differs in degree from the nervous dry cough above deſcribed; and when the latter eſcape with their wind unbroke, it is probable that may be owing either to an uncommon goodneſs in their conſtitutions, or to ſome extraordinary careful management, or perhaps to both.

A broken wind properly a convulſive diſpoſition of the Lungs, &c.

I have ſometimes looked upon a broken wind to be in a great meaſure an hereditary diſtemper in Horſes, as aſthmas and many chronical diſtempers are to ſome human conſtitutions at a certain period of life; becauſe moſt of theſe kind of Horſes generally grow broken-winded when they are riſing eight years old, ſome riſing nine, but very few before eight or after nine. Indeed a broken wind may happen to ſome Horſes more than others from a peculiar texture and diſpoſition of thoſe parts where the malady chiefly reſides; for one Horſe may naturally have his Lungs and other organs employed in reſpiration of larger and more lax contexture than another without any accidental cauſe. In ſome the fault may be chiefly in the Muſcles being ſo diſpoſed in their action and reaction as to add to the increaſe and bulk of one part, and the decreaſe and diminution of another. In others the original defect may be in the Nerves, which are always more or leſs faulty in ſuch caſes, and ſometimes there may be a combination of all or ſeveral of theſe cauſes found together, wherein the diſtemper may be reckoned in a great meaſure hereditary. Nevertheleſs we may find out

Horſes generally grow broken-winded when they are riſing eight or nine years old.

In ſome Horſes a broken wind may be hereditary.

other cauſes that may give a beginning to all or moſt of the defects and ſymptoms that are obſervable in broken-winded Horſes.

From what I have obſerved in many Horſes that have gone broken-winded, I am apt to imagine the ſource of this infirmity is for the moſt part owing to injudicious or haſty feeding young Horſes intended for ſale; eſpecially thoſe that are taken up lean from winter graſs, or have been worked hard and poorly fed; for in both theſe caſes their fleſh generally ſticks ſo cloſe to their ribs, that the firſt nouriſhment they get by additional feeding increaſes the growth of the Lungs, Heart, Midriff, and other internal parts, as a conſiderable portion of the aliments when it is newly converted into Blood, immediately enters the Lungs by the Subclavian Veins, and cannot be ſo ſoon admitted to a free paſſage any where elſe. For the parts lying at a greater diſtance having in all lean habits moſt of their ſmaller Veſſels collapſed and ſhrunk, eſpecially towards the extremities of the ſkin, muſt therefore reſiſt the ingreſs of the arterial Blood, and thereby tend greatly to increaſe this redundancy in the ſoft parts within the cavity of the Thorax, before the external parts can be ſufficiently relaxed and opened, not altogether unlike what happens to ſome children that run all into belly and turn rickety by being fed with too great quanties of ſpoon meat, butter, and other relaxing diet, and at the ſame time have not been enough hoiſted and exerciſed by their nurſes.

A broken wind may proceed from errors in feeding, &c.

Now this kind of management in feeding lean Horſes expoſes them to many dangerous accidents, as I have taken notice elſewhere, ſuch as frequent Colds, Fevers, Pleuriſies, inward inflammations, which ſometimes end in inward inflammation, and rottenneſs. And if they eſcape theſe diſaſters by indefatigable care, or by the natural ſtrength and vigor of their conſtitutions, with the helps of phyſick properly adminiſtered, or by any other good conduct; it is great odds if many of them do not turn broken-winded when they have done growing and begin to fill up in fleſh, which I take to be the caſe of many of thoſe Horſes that loſe their wind. The manner of their feeding for ſale contributes greatly to this malady, moſt of the food adminiſtered by the breeders or firſt purchaſers, before they come into the hands of our *London* dealers, (which conduct ſome of them alſo too much follow) is of that kind, and ſo managed as to turn the ſooneſt into nouriſhment. And where the Lungs and other ſoft parts happen to be naturally larger than ordinary, as they are undoubtedly in ſome Horſes, and the appetite to feed ſtrong, the danger is then the greater and the caſe the more hazardous.

This I imagine will appear pretty evident to thoſe who have been concerned with any number of young Horſes that have ſtood together, and

No right judgment can be formed from ſingle inſtances.

been in the ſame keeping; for we can never make ſo certain a judgment from ſingle inſtances, or from a ſmall number as from many. I have often known forty young Horſes or upwards bought in one ſeaſon for the Troops that were under my care, whereby I had opportunities of this kind beyond what is common. Moſt of theſe being but four or five years old, few of them eſcape coughs and colds upon their firſt coming in, by the change of air, change of diet, and a very different kind of exerciſe, from what they had been accuſtomed to, eſpecially after they had lain ſtill without any other exerciſe, perhaps for three or four months, beſides leading them out once or twice a day to water. Some young Horſes will alſo cough upon ſhedding their Teeth, or the coming in of their Tuſhes; yet theſe for the moſt part ſoon recover with a little care and good management. But among ſo great a number, I always found ſome few that coughed more vehemently, even than the Horſes that had the greateſt colds, and without the leaſt ſign of ſickneſs or loſs of appetite; and theſe generally ſpeaking, were the Horſes that turned broken-winded. Theſe Horſes were always treated as the others that recovered of their colds, both with reſpect to food and phyſick, and when their coughs were found to be obſtinate, further trials were made to remove them. Sometimes with ſoft balſamicks; ſometimes with things both balſamick and deterſive; ſometimes with evacuations, and after theſe with the moſt powerful and efficacious alteratives, which would often have ſo good an effect, as to abate the cough and enable thoſe Horſes to go through their common buſineſs; but upon the changes and alteration of the weather, or any uncommon duty, the cough generally returned with as much violence as ever, eſpecially in very ſharp winds or cold damps, or by any other means that gave a ſudden check to tranſpiration; ſo that ſeldom any more could be done than to palliate thoſe ſymptoms, and it was well when they went no further than to end in a ſettled dry cough.

Thoſe ſigns that are the moſt certain fore-runners of a broken wind.

HAVING premiſed theſe things, I ſhall add further to what I have already laid down concerning the ſigns of a broken wind, that there is a dry huſky cough always previous to it, and a certain fore-runner of it; without any ſickneſs or loſs of appetite. On the contrary, theſe Horſes are generally voracious foul feeders, and for the moſt part eat their own wet litter, which, like a ſponge, fills up their Guts, and greatly helps on that diſtemper. The cough continues more or leſs at a ſtay, from four or five years old, till ſeven, during which time this continual diſpoſition to cough paſſes only for an obſtinate cold with moſt people; but afterwards when a Horſe is turned ſeven, coming eight, the caſe grows more apparent and viſible; for then beſides his cough, which grows ſtill more violent and

more

more frequent, he alſo heaves and labours in his Flanks without, or with very little intermiſſion, eſpecially when he has been newly fed, or immediately after drinking, as has been already obſerved, becauſe the extreme fulneſs of the Stomach, always interrupts the action of the Lungs and Midriff. There alſo appears a quick motion and working of the Noſtrils, with a continual motion of the Fundament, occaſion'd by the convulſed ſtate of the Muſcles concerned in reſpiration, and is alſo the occaſion of that well known ſymptom of farting by the frequent ſtops in coughing.

Some Reaſons why a Horſe's Wind generally goes when he is about eight years old.

Now the reaſon why all theſe ſymptoms of a broken wind become moſt apparent at this age, *viz.* when a Horſe is about eight or coming eight, I take to be chiefly, becauſe a Horſe at that time uſually arrives at his full ſtrength and maturity. He finiſhes his growth in height commonly at ſix, and ſome Horſes of a compact mould ſooner, as I have often obſerved by frequent meaſuring. After that he lets down his Belly, and ſpreads till the time abovementioned. As he grows in Fleſh, the oppreſſion upon his Lungs, Midriff, and other parts, becomes the greater, becauſe there is then a greater preſſure and bolſtering up of thoſe parts, occaſion'd by the plenitude and fulneſs of the Veſſels. The filling up of the Interſtices with fat, and all other vacant ſpaces, both external and internal, ſo as to cauſe a very great oppreſſion, where the Lungs and other principal Bowels are preternaturally large; ſo that whoever rightly conſiders theſe things, will find that a broken wind may be reckoned among the incurable diſtempers of Horſes, and that all the boaſted pretenſions to the cure of this malady, are in a great meaſure vain and frivolous. And therefore I ſhall only lay down ſuch methods, as may be the moſt likely to keep Horſes from going broken-winded, or if that cannot by any means be prevented, to render them as uſeful as poſſible, by pointing out the proper means, whereby the worſt ſymptoms may be greatly mitigated, ſo as a broken-winded Horſe may be rendered of ſome uſe to his owner.

The beſt Method to prevent a Broken Wind.

While a Horſe has only a dry, obſtinate cough, without any viſible ſickneſs, or loſs of appetite, but on the contrary a great and foul feeder, with an eager diſpoſition to eat his litter, and to drink much water; theſe being the uſual forerunners of a Broken Wind, no method ought to be neglected if the Horſe be of value, to prevent his falling into that diſaſter. In order to which, it will be proper to begin with bleeding the Neck, or Plate Vein, and after that mercurial phyſick well prepared will be of great ſervice. Calomel is the fitteſt for this purpoſe, and may either be given alone before the purges, or made up with them. When the Calomel is given before the purge, it may be done in the following manner.

Take

Mercurial Phyſick proper in ſuch Caſes.

Take Mercurius Dulcis, or Calomel, two drams; Diapente, one ounce; make it into a Ball, with a ſufficient quantity of common Treacle, or a ſolution of Spaniſh Liquorice, and roll it in Liquorice Powder.

Let this be given in the morning, keeping the Horſe faſting three hours before, and three hours after it; two days after this ball let the following, or any other good purge be adminiſter'd, *viz.*

Take the beſt Succotrine Aloes, ten drams; Jallap in Powder, one dram; and if the Horſe be ſtrong and not eaſily mov'd, two or three drams of Jallap may be put into the purge; Salt of Tartar, two drams; grated Ginger, one dram; make it into a Ball, with a ſufficient quantity of Syrup of Roſes, or Syrup of Buckthorn.

The mercurial ball and purge, may be twice or three times repeated after the firſt at proper intervals. The Horſe muſt be kept cloath'd, and not ſuffered to go into the water, or to be wet, or drink cold water but warm, with a little bran or oatmeal ſqueez'd into it, and muſt be fed as in all other caſes where purges are given.

As it is reaſonable to ſuppoſe in moſt, or all theſe caſes, ſome degree of ſharpneſs and aſperity in the juices, which ſtimulates the nervous parts of the Lungs and Windpipe, ſo as to create a continual tickling and vehement cough; therefore it will be alſo neceſſary, in the intermediate days between the purges, to adminiſter things that are ſoft, healing, and balſamick, as well as thoſe that are cleanſing and attenuating; for ſoft balſamick medicines alone will only palliate, but not effectuate a cure. Nevertheleſs, theſe are principally to be uſed when the cough is moſt vehement, to remove the tickling, and heal the inward ſoreneſs, as Parmaſitty, Linſeed Oil, and Honey, which is not only balſamick, but moderately deterſive, ſolutions of Gum Arabick, Gum Tragacanth, and ſuch like. But nothing does better to abate the cough, and heal the ſoreneſs occaſion'd thereby, than the following appoſem.

Take Hyſſop, Penyroyal, Horehound, and Coltsfoot, of each a handful; freſh Linſeed bruis'd, two ounces; Aniſeeds and Liquorice, of each an ounce; Valerian, ſix drams; Saffron, two drams; infuſe in two quarts of boiling Water in a deep Pan, and let it ſtand covered all night.

DIVIDE into three doſes, and adminiſter them between the purges, *viz.* beginning the morning after the phyſick has done working, and giving one every day blood warm. The ſame method may be followed after the ſecond and third purge. And if the Horſe ſhould have any ſymptoms of a freſh cold, two large ſpoonfuls of Honey, and two ounces of Linſeed Oil, or Sallad Oil, may be added to each doſe.

THE following balls are both balſamick, and ſomewhat deterſive, and being portable, may be conveniently given upon the road, or after hunting, to ſuch Horſes as are ſubject to cough.

Take Venice Turpentine, and Conſerve of Roſes, of each two ounces; Elicampane, Liquorice, and Aniſeeds in Powder, of each four ounces; Garlick pounded, two ounces; Parmacitty rub'd down in a Mortar, with the Yolks of two new laid Eggs, one ounce; Honey a quarter of a pound; make into Balls, with a ſufficient quantity of Linſeed Oil.

A proper Method to be followed in caſe of a freſh Cold, or when the Cough happens to be vehement.

ONE of theſe may be given every morning in time of hunting, or on the road every day, or every other day, according to the urgency of ſymptoms, that is, as the cough happens to be more or leſs vehement, and will very much help a Horſe to go through his buſineſs. All the ſoft, healing pectorals preſcrib'd in colds, aſthmas, and other diſorders of the Breaſt and Lungs, are proper in this caſe, to abate the cough when it is violent, and the ſoreneſs occaſion'd thereby; but theſe are only palliative, and tho' they may remove urgent ſymptoms, that ſometimes ariſe upon catching a freſh cold, yet they will ſignify but little in carrying off the cauſe, and where any attempt is made to do that, ſuch things are only like to ſucceed, that are both deterſive and attenuating, and adapted to open the obſtructions of the ſmalleſt Capillary Veſſels that clog the Nerves; neither will theſe anſwer to any good purpoſe, unleſs they be continued for a conſiderable time, for two or three months at leaſt.

THE following is one of the moſt efficacious remedies I ever knew, for removing a ſettled cough; tho' I ſhould adviſe any one who has a valuable Horſe with this infirmity, not to be too late, but to begin betimes; for if once a Horſe comes to be full ag'd, tho' the cough may be removed for a ſeaſon, it will be apt to return again, and generally increaſes, and becomes harder as he grows older, ſo that it will be in vain to expect a cure, and all that can be done for him muſt be in his feeding and exerciſe. The remedy I would recommend for this purpoſe, is made up into balls, that being the moſt convenient form, and the beſt ſuited to the ingredients. They will

not

not come ſo cheap as many other preſcriptions of this kind, but I have found them ſo efficacious in removing obſtinate coughs, and ſometimes ſo ſoon, that the expence has been but ſmall, compared with the good they have done, and therefore I can recommend them for Horſes of value.

An Excellent remedy to prevent a Horſe going broken-winded.

Take Aurum Moſaicum, in fine powder, eight ounces; Myrrh and Elicampagne, in powder, of each four ounces; Aniſeeds and Bayberries, of each an ounce; Saffron, half an ounce: make into balls, with a ſufficient quantity of Oxymel of Squills.

The Aurum Moſaicum, which is the baſis of this compoſition, is made of equal parts of Quickſilver, Tin, Sal Armoniack and Sulphur. I have uſed it in ſeveral different forms of balls, and often with great ſucceſs, in obſtinate dry coughs; and though it is a mercurial preparation, yet it is ſo ſafe in its operation, that it may be continued a long time together, without the leaſt danger. The other ingredients are warm and attenuating, and give great relief in all nervous diſorders; the doſe is the uſual quantity, *viz.* the bigneſs of a pullet's egg, or of a large French walnut; one to be given every morning, and to be continued for a month or ſix weeks, even though the Horſe ſhould ſoon leave off coughing; it would not be amiſs to give a couple of mild purges, before he begins to take the balls, and one or two more after he leaves off taking them.

The following preſcription is alſo very efficacious, and will anſwer in moſt caſes that are curable, *viz.*

Another for the ſame purpoſe.

Take Gum Ammoniacum, Galbanum, and Aſſa Fœtida, of each two ounces; Garlick, four ounces, or four middle-ſized heads; Cinabar of Antimony, ſix ounces; Saffron, half an ounce: make into a paſte for balls, with a ſufficient quantity of Honey.

Let the Gum Ammoniacum be ſoftened, by pouring a little vinegar upon it, and when it has ſtood ſo all night, pound it well firſt by itſelf, and then with the Galbanum and Aſſa Fœtida, without ſtraining theſe gums, only picking out the larger ſticks, for the ſtraining weakens them, and deſtroys part of their efficacy; the Garlick muſt be peeled and pounded with the gums, and the Cinabar of Antimony muſt be rubbed in a clean mortar, till all the gliſtening diſappears, and turns into a red or crimſon coloured powder; then add the ſaffron, and mix all together with the honey, and when the whole

whole is well incorporated, give the ſame quantity as of the preceding, *viz.* of a pullet's egg, every morning an hour or two before feeding-time.

THESE are not ſo chargeable as the other, the Cinabar of Antimony being not above half the price of the Aurum Moſaicum, which are both at a fixed rate; but the foreign drugs are uncertain, for the Galbanum was, but a few years ago, ſold at forty ſhillings a pound, and has been ſince, not above ſo many pence, which may be eaſily enquired into before a medicine of this kind is made up; but according to the rate theſe drugs are uſually ſold at, the laſt balls will not much exceed the price of our common Horſe balls.

THE following will alſo be found efficacious in all dry coughs, eſpecially when there happens to be a freſh cold, or any other concomitant diſorder, that may cauſe eroſions and ſoreneſs in the Lungs.

Take the cleareſt ſhining Antimony, made into an impalpable fine powder, eight ounces; Garlick pounded, Flowers of Brimſton, and dried Colts-foot, of each four ounces; Elicampagne, and Liquorice Powder, of each ſix ounces; Valerian Root in powder, two ounces; Saffron, ſix drams; Spaniſh Liquorice diſſolved in white wine, one ounce: make into balls, with a ſufficient quantity of Oil Olives or Linſeed Oil.

THESE may be given a month or ſix weeks, as the others, and will come as cheap as any of the common Horſe-balls to thoſe who will take the trouble of making them for their own uſe. Garlick alone, cut ſmall, two or three cloves in a feed, has often been found to do good ſervice, when continued, in all ſuch obſtinate coughs. Some at the ſame time ſprinkle their hay and their oats with chamber-lye, which is alſo a help in theſe infirmities, which perhaps may be owing to the volatile ſalts of the urine; and it has always been obſerved, that the wetting ſuch Horſes feeds, even with water, leſſens their inclination to drink, to which many of them have a ſtrong propenſity. I have known abundance of Horſes, by the conſtant uſe of ſuch things, and with right and well-timed exerciſe, and careful feeding, recover to admiration, even when there has been a ſuſpicion of their wind.

Garlick uſeful in dry coughs.

IF theſe obſtinate coughs wear off gradually, with the uſe of proper means, there is hopes of a recovery, and is a ſign the medicines take a right effect, and ought therefore to be continued for ſome time; but when the cough leaves a Horſe of a ſudden, perhaps for a week or a fortnight, and as ſuddenly returns, notwithſtanding all proper helps have been given to remove

When the cough leaves a Horſe of a ſudden and not gradually, it is apt to return.

move it; this ſhews the caſe to be obſtinate, and in a great meaſure incurable.

Some Horſes in a dry cough, will, now and then, after ſnorting, throw out of their Noſes a white well-digeſted phlegm, about as much as an egg-ſhell will hold, which is uſually followed with ſome drops of clear water; and becauſe this always gives relief, when it is natural, and not forced, ſome have therefore been encouraged to inject mixtures of oil, vinegar, and pepper, with other ſtimulating things, into the Noſe to procure a running from thence, but I cannot ſay I ever ſaw any good come from ſuch practice; and indeed moſt dry coughs, that are curable, wear off inſenſibly without any diſcharge at all from the Noſe, more than may be common at ſome times to all other Horſes.

Injections into the Noſe for the moſt part hurtful.

Many other means have been uſed to remove obſtinate coughs, and to prevent their going broken-winded, which I ſhall here omit, as being of little certainty, and ſhall only mention one more, which I have known to do good ſervice, and may eaſily be procured, in all places; and that is, to boil ſome heads of garlick in new cow's milk, which, however, requires ſome few cautions, which I ſhall mention from experience. The uſual doſe of the garlick is large, being no leſs than ſix whole heads, which are very different in ſize, ſome being four times larger than others, and therefore the doſe muſt be very uncertain. Theſe are boiled in three pints of milk to a quart, which is poured off, and given early in the morning, after a Horſe has ſtood ſeveral hours faſting. But I have known ſome Horſes of ſqueamiſh conſtitutions, ſo deſperately ſick with the doſe, when the heads of garlick happen to be large, that they have not recovered their appetite for ſeveral days after it; and therefore I have adviſed thoſe who have been inclinable to uſe this eaſy remedy to weigh the garlick, three ounces, which is about ſix middle-ſized heads, to peel it well and bruize it, and boil it only a ſhort ſpace in a quart of milk, for the long boiling thickens the milk, and makes it more ſickly and cloging. Some Horſes are ſo delicate, that they cannot even bear it of that ſtrength, without very great diſorder, and to ſuch I have adviſed half milk half water, and ſometimes to leſſen the quantity of the garlick; and I have known theſe things given every other day, for a week or a fortnight, remove very obſtinate coughs, but then they were adminiſtered in time, before the cough was become habitual and fixed.

Garlick boiled in new milk, ſometimes helpful in obſtinate coughs.

But where a cough is not to be moved by the help of medicines, the beſt way to keep it moderate, and to prevent a Horſe's going broken-winded, is, principally, to obſerve a juſt œconomy in his feeding and exerciſe; his feeds ſhould be divided and given often; a moderate quantity of hay, or any other kind

The exerciſe and feeding proper in obſtinate coughs.

kind of diet that may not fill up the ſtomach and guts too much, and excite him to drink beyond meaſure; and this caution ſhould be obſerved, even tho' he does not carry a belly, which is the caſe of many young Horſes, while they are growing; his exerciſe ſhould be conſtant, and more than perhaps is needful for others, that have not the like ſymptoms; and as we ſuppoſe the Lungs and ſome others of the Viſcera to be large and over-grown, the following alterative ball may be given once a fortnight, or once in three weeks to attenuate the Blood and Juices, and to make revulſion, the better to fit the Horſe for his exerciſe. and where a Horſe's Wind is faulty.

Take Succotrine Aloes, ſix drams; Myrrh, Galbanum, and Ammoniacum, of each two drams; Saffron, one dram; and Bayberries, half an ounce. Let the ingredients be pounded and made up into a ball, with an ounce of Syrup of Buckthorn, and a ſpoonful of the Oil of Amber.

THESE may be continued for two or three months, during the ſpring ſeaſon, when ſuch Horſes are much ſubject to cough. It will work ſo gently as ſeldom to hinder a Horſe from his uſual exerciſe, or buſineſs, excepting the day he takes it, which is but one day in a fortnight or three weeks, when it will be proper for him to have a little warm meat and water. Theſe things, with conſtant exerciſe, may gradually abate the ſuperfluous growth of fleſh, whether internal or external; will help to remove the redundancies that may clog the Nerves, and hinder the regular actions of the muſcles, which is the moſt feaſible way of all others to prevent a broken wind; but for Horſes of ſmall value, where the owners are unwilling to be at much charge or trouble, I would only recommend conſtant well-timed exerciſe, or to keep them conſtant in ſome daily work that is not too hard and ſtraining, but moderate, by which alone many Horſes have been preſerved from loſing their wind; for we find but few Horſes go broken-winded, that have been uſed to buſineſs or labour, from the time they were firſt broke; but chiefly thoſe that have been pampered and delicately kept, or have been under ſome other ill management.

BUT I ſhall now proceed to lay down ſome methods for the right managing thoſe Horſes, that have irretrievably loſt their wind, which, as I have already obſerved, generally happens when they are about eight, or coming eight years old, for at that time, a few hours hard riding, eſpecially upon a full belly, will frequently bring their caſe to an undoubted certainty, which before was perhaps only looked upon as an obſtinate cold; and from

hence many have concluded colds to be the true cauſe of that malady, or riding a Horſe beyond his wind. It is true, a very great cold may, when attended with other ſymptoms, end in a broken wind, and ſo may exceſſive hard riding at a critical time; and likewiſe, ſeveral other errors in conduct may have the ſame effect. But it ought alſo to be conſidered (what every one who has experience in this matter muſt needs know) that Horſes at this age often go broken-winded in one night's time in the ſtable, that have had no immoderate exerciſe, nor been under any remarkable miſconduct in their diet or in other reſpects, but merely at a certain period, in the manner that has been accounted for. In others the diſtemper comes more gradually to its ſtate, where a foundation has been laid, either from a natural defect, or from former miſmanagement; for if it was otherwiſe, all Horſes would be alike ſubject to it, eſpecially upon catching cold, hard riding, or riding upon a full belly, or after a bellyful of water, but we daily ſee the contrary; and we may obſerve further, that the very ſame Horſe that goes broken-winded at ſeven or eight years old, ſhall, before that time, go through very ſevere exerciſe, and other ill treatment, without being much hurt, till his veſſels are filled and all his parts grown to their full extent, and then the leaſt irregularity of any kind, and oftentimes the beginning of hot weather alone, breaks a Horſe's wind that has a previous diſpoſition to it, as I have frequently obſerved: for the Lungs of ſuch Horſes being, for the moſt part, preternaturally large, and always more flatulent and flabby than in other Horſes, from whatever cauſe this proceeds, they grow ſtill more full and diſtended to their period; the veſſels of their Lungs more relaxed and conſequently more unfit for a regular uniform motion, which hinders the free tranſmiſſion of the air, and weakens the Tone of the Muſcles. For not only the Midriff in this caſe generally becomes thin and ematiated, but many of the other Muſcles employed in reſpiration grow weak and extenuated, as any one may eaſily perceive, by carefully obſerving the Flanks, the Breaſt, and Belly of a Horſe, that has been but a ſhort time labouring under this malady; for afterwards the caſe alters, but at firſt we may obſerve, that all the depreſſors of the Thorax, and thoſe that act in concert or affinity with them, are ſomewhat convulſed, and in a more conſtant ſtate of contraction than what is to be ſeen in a Horſe that has no infirmity; and from hence one may alſo learn the reaſon why a broken-winded Horſe is always worſt the firſt year, and afterwards grows gradually better, if he meets with no accidents or ill treatment. For altho' this violent labouring and ſtriving for breath, is exceeding troubleſome and painful to ſuch Horſes, yet their Lungs being generally ſound and intire, and their veſſels in no degree injured by this agitation, the

Blood.

Blood by that means becomes more attenuated, the air paſſes and repaſſes with a greater force and impulſe than before, whereby the Veſſicles and Air-Bladders of the Lungs become more open, thin and pliable, by which their whole ſubſtance may leſſen both in weight and bulk; and as there is by degrees a freer paſſage for the air through all parts of the Lungs, ſo the Muſcles of reſpiration in ſome degree recover their proper tone, the Extenſors becoming leſs relaxed, and the Depreſſors leſs rigid in their contractions, and by degrees act with more uniformity, and as more equal antagoniſts one to another. This I apprehend to be the way how we are to account for the amendment we obſerve in broken-winded Horſes, when the diſtemper is paſt its period, which in thoſe that are not very old, is often attended with ſuch a turn, as renders them more uſeful than they were before. But as the diſtemper is a conſiderable time in coming to its period, ſo the recovery is alſo gradual and ſlow, and ſeldom or never perfect.

How a Horſe ought to be treated when his wind is totally gone, ſo as to render him uſeful.

Now the knowledge of theſe things will lead us into the true method how a Horſe ought to be treated when his wind is totally gone, ſo as we may help to abate the moſt preſſing ſymptoms, and to render him ſerviceable and uſeful under this infirmity. And here it is to be remembered, that ſome loſe their wind gradually, others all of a ſudden; tho' theſe alſo have always a hard cough and the other ſymptoms previous to a broken wind; ſo that the diſtemper coming more ſuddenly to its period, in one than another, may be owing to ſeveral cauſes and accidents which have been already hinted at, and which I ſhall not ſtay here to repeat, only thus far I have often obſerved, that thoſe kept in conſtant regular exerciſe neither loſe their wind ſo ſuddenly as thoſe that have been neglected or abuſed in their exerciſe, nor are their paroxiſms ſo violent in the height of their diſtemper. But however that be, the method of relieving broken-winded Horſes is generally the ſame in moſt or all circumſtances.

When a Horſe is ſeized with a violent agitation and an uncommon oppreſſion, as happens ſometimes upon the going of the wind in the firſt of the hot weather, that he can neither eat nor drink, nor ſwallow any thing down, by reaſon of this oppreſſion and want of breath, the beſt way in this caſe is to open all the ſtable doors and windows, to let in as much air as poſſible, and to keep the windows and air-holes (if there be any) open night and day; for during the paroxiſm no medicines can be ſafely adminiſtered, and the forcing down drinks and balls only endanger a ſuffocation or inflammation of the Lungs, either of which might eaſily prove fatal, and I am perſuaded many Horſes are ſpoiled by hurrying things too ſoon upon them. The next thing after you have given him air, is to take a mo-

a moderate quantity of Blood. Three pints is ſufficient at once, which may be repeated as you ſee occaſion. You will obſerve him ſometimes try to eat, and crave after drink, but during the violence of the fit is able to do neither, and I have known ſome Horſes continue in this miſerable condition ſeveral days, and the only method I found to keep them from ſtarving was, to put a ſmall feed of ſcalded bran into the manger at ſupper time, and tho' he will no ways taſte it while it is hot, yet in the cool of the night he will pick it up by little and little. Sometimes Horſes in this condition are not able to reach up to the rack, eſpecially if the rack be high; but if a little ſweet hay is laid upon their litter, they will pick up that alſo, and ſometimes part of their litter, which therefore ought always to be freſh and clean. Water-gruel or white water may be given them cold for their drink, about two or three quarts at a time, eſpecially in the morning and cool of the evening, in the hot weather; for in the middle of the day, tho' their thirſt is often violent, they are unable to ſwallow, and therefore as drinking is extremely neceſſary to dilute their Blood, they ſhould be indulged in it at all proper times, and not be reſtrained from water, in ſuch a manner as many do, from a notion that it is hurtful to them, only they ſhould never be indulged to fill their bellies too full, but to be ſuffered to drink in ſmall quantities and often. And whoever follows this method will always find their account in it.

When Horſes loſe their wind in the hot weather, there is ſcarce any ſtable to be found that is cool enough for them. And therefore they ſhould be walked in hand in ſome ſhady place, in the middle of the day, when their oppreſſion is the greateſt, whereby they always find great relief; and as ſoon as the moſt violent ſymptoms abate, that they are fit to be mounted, they ſhould be carried out daily five or ſix miles into the open air, with all the gentleneſs imaginable, and the rider ſhould ſtop frequently after his firſt ſetting off, to let his Horſe take breath. By this means the violence of the fit will ſoon abate, and the Horſe will come to eat and drink what is ſufficient for him, and be enabled to do buſineſs with good uſage; and by keeping him in conſtant moderate exerciſe, he will mend gradually till the next ſpring or ſummer, when the ſame ſymptoms uſually ſhew themſelves, but not in ſo violent a degree ſo as to render the Horſe altogether uſeleſs, as at the firſt, and may either in ſome meaſure be prevented or ſhortened by a careful management, ſuch as not ſtiving them up too hot, keeping them to a low diet, and working them accordingly, eſpecially to be ſparing of hay, or any other kind of food that fills the Stomach, and cauſes a diſtention there and in the Guts. The wetting their hay and corn with chamber-lye

ber-lye, or ſometimes with fair water, a thing now in the acquaintance of moſt people, is alſo a help to broken-winded Horſes, not only as the moiſtening of their food makes them crave leſs after water, but perhaps there may be ſome virtue from the volatile ſalts in the urine, as I have already taken notice in a dry ſettled cough, for all volatiles are good in ſuch caſes. For the ſame reaſon Garlick is of great uſe in all obſtinate coughs and broken-winded caſes, as it abounds with volatile parts, and is alſo healing and balſamick, and may be given five or ſix cloves at a time in every feed, and continued during pleaſure. All the things preſcribed in obſtinate dry coughs are alſo of great ſervice in a broken wind, and even careful feeding and moderate exerciſe has greatly relieved many broken-winded Horſes after all the helps from medicine have failed, tho' never ſo perfectly; but ſome veſtiges of it always remain, as fits of coughing upon change of weather, and a diſorder in the Flanks after hard riding.

Indeed few broken-winded Horſes (where the caſe is ſo violent as has been deſcrib'd) are able to indure much exerciſe the firſt ſummer; but I have known many that have been very little oppreſſed the ſecond, and ſome ſcarce perceivable the third ſummer, but have by that time been able to bear all manner of fatigue, both in hunting, and every other buſineſs, after they have been ſet aſide as uſeleſs, or have been uſed only as Hacks. The reaſon of which unexpected alteration, I have already in ſome meaſure laid down: for if Horſes are not too much haraſſed in the beginning, ſo as to make infractions in their Lungs, or other inward parts, to break the ſmall Veſſels, and thereby raiſe inward inflammations; the Lungs, the Heart, the Midriff, and all the other Muſcles concerned in reſpiration, will in time recover their tone in ſome meaſure, and the actions of all thoſe parts at length grow familiar and eaſy, and even any inward, preternatural growth of the *Viſcera* may be leſſened, the Parts that in the paroxiſms or fits, were too much contracted, will loſe their rigidity, and thoſe that were relaxed, grow more firm, and recover their ſpring, ſo as to act with more uniformity.

This is plainly perceivable in broken-winded Horſes. In the extremity of their diſtemper they appear hollow, and pinch'd in their Flanks, and their Bellies. Their Thighs and Gaſcoins alſo look ſomewhat waſted and ſunk, but as they recover, theſe parts begin to fill up, and in time a broken-winded Horſe with good uſage will again let down his Belly, his Breech grows more round, his Breaſt more full and expanded, and appears tolerably eaſy in breathing, inſomuch, that thoſe who are not in ſome meaſure acquainted with the different ſtates of Horſes, will ſcarce perceive him by his looks to

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be any ways defective, unleſs he happens to diſcover his infirmity by his cough, which in ſome degree will hang by him to the laſt.

I ſhall not here mention the innumerable experiments that have been try'd to cure broken-winded Horſes, ſuch as injections into the Noſe, drinks loaded with numbers of ingredients, ſometimes with raw eggs, oil, butter, and ſuch like, whereby ſeveral Horſes have been kill'd, or rendred in a great meaſure uſeleſs. Nor need I take notice of the method ſome have, of boring into the ſide of the Streight Gut, to make a freer paſſage for the air to vent backwards, which will appear altogether abſurd, after the account I have already given of theſe kind of maladies, ſeeing the wind and flatulency ſo obſervable in the Bowels of a broken-winded Horſe, which cauſes the working of his Fundament, is occaſioned by the violent and conſtrained force of the muſcular action, which yet is no real part of the diſtemper, but only an effect of it, and always goes off gradually as the other ſymptoms abate.

Quick-ſilver ſometimes helpful to Wheeſings but not to Broken-winded Horſes.

SOME have a high opinion of Quickſilver for broken-winded Horſes, and I have myſelf given it with good ſucceſs to wheeſing, thick-winded Horſes of a very ſizy Blood, that have been greatly relieved with it. But in a dry Cough, or a Broken Wind, it has not the ſame ſucceſs. I have indeed known ſome of theſe helped by it, where there were concomitant ſymptoms of a humorous Aſthma, but eaſily relapſed upon the diſuſe of it, ſo that it is both uncertain, and in obſtinate caſes, by the long continued uſe of it, ſomewhat expenſive. Neither is it altogether ſafe, as the horizontal poſition of a Horſe, may throw a greater quantity of the mercury into his Blood than is conſiſtent with the end propoſed by it, ſo as to produce very miſchievous effects. And I am the more ſatisfy'd in this from what I have ſeen ſeveral times in Horſes, from the repetition of mercurial medicines in the farcy, and other leprous diſtempers.

The Effects of Graſs upon broken-winded Horſes.

I ſhall conclude what I have further to ſay on this ſubject, with ſome obſervations concerning the uſe of graſs, which indeed gives great relief to broken-winded Horſes while they continue abroad, not only becauſe they are always in the open free air, and ranging at pleaſure about the fields, but becauſe their diet is alſo both ſoft and cooling, and paſſes more eaſily through them than hard meat, beſides that graſs does not ſo much excite them to drink; ſo that thoſe who have conveniencies to keep ſuch Horſes always abroad, and only take them up when they have occaſion to uſe them, and after that turn them out again directly, by that means preſerve them tolerably eaſy, and they will continue under this management to do good ſervice

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many years. But ſuch as ſend Horſes to graſs merely to cure them of a Broken Wind, will find themſelves greatly diſappointed, eſpecially if they remain abroad after the ſpring graſs; for as ſoon as theſe are brought back to ſtand in the ſtable, they are for the moſt part ſoon blown up again, being deprived of the air and diet they had at graſs, and become generally much more oppreſſed and ſhort breath'd than before. Inſtances of that kind are frequent, as alſo of Horſes that have been ſent to graſs to cure an obſtinate cough, and have return'd from thence compleatly broken-winded, eſpecially where they have been turn'd into a ſucculent rich paſture, and have grown fat, and had their bellies always full; and the oftner ſuch Horſes are turn'd out, the worſe they always return; and therefore thoſe who have not the conveniency of graſs near their Houſes, will find it more for their intereſt to keep ſuch Horſes always at home, under ſome proper and right management, eſpecially if they are young, and otherwiſe worth the care and expence that may be neceſſary to preſerve them; and if a cool open diet ſhould be judg'd wanting, they may be fed a month or ſix weeks in the ſpring with green barley, tares, or any other kind of herbage fit for ſoiling, eſpecially while it is young and full of juice, for if it happens to be old and tenacious, it will be little better than their own dirty litter, and more likely to help on a Broken Wind than to cure it.

Of a Conſumption.

THAT Horſes are ſubject to Conſumptions and waſting diſorders, muſt be manifeſt to all who have had any tolerable acquaintance with their diſeaſes, tho' few have been able to diſtinguiſh a true Conſumption from an obſtinate cold, or other diſorders of the Breaſt; and therefore I ſhall endeavour to ſet this matter in a clearer light, than what has hitherto been done in Books of Farriery. Horſes ſubject to Conſumptions and waſting Diſeaſes.

THE cauſe of a Conſumption, is frequently from colds that have never been thoroughly cured, but have left ſome taint upon the Lungs, or ſome other of the principal *Viſcera*, eſpecially of the parts contained within the Cheſt, ſometimes from violent inward ſtrains, in working a Horſe beyond his ſtrength, or when he has a cold upon him; travelling a Horſe beyond his ſtrength; riding long journeys without allowing ſufficient food, or proper times of bating and reſt upon the road; riding in the night in damp and wet weather, and from other ſuch like errors; and ſometimes Conſumptions proceed from weakneſs or other faults in the conſtitution; ſometimes from pleuriſies, ſurfeits, or long continued ſickneſs of any kind. The Cauſe

Hot Horſes the moſt liable to Conſumptions.

FIERY hot Horſes are the moſt ſubject to Conſumptions, being for the moſt part naturally weak and waſhy, and of a hectick diſpoſition. Theſe generally move with much heat and vigor for a ſpurt, but this ſoon abates, and if they happen to be work'd at any time more than ordinary, they loſe their appetite, they ſtale and dung often, for the moſt part loſe their Fleſh, and look faint and jaded, a hectick fever often attends, ſo that they feel all over hot, tho' not to ſuch a degree as in inflammatory and other fevers; but theſe ſymptoms generally wear off with two or three days reſt, and their appetite to food will alſo return, but are apt to relapſe as ſoon as they are put upon freſh exerciſe, and tho' they are never ſo much indulg'd with reſt and food, they ſeldom carry a Belly, and but little Fleſh.

The Signs of a Conſumption in a Horſe.

WHEN a Conſumption proceeds from any defect in the Lungs, or principal *Viſcera*, their Eyes look dull, and a little moiſt, their Ears and Feet are for the moſt part hot. They have commonly a ſharp cough by fits, and frequently with a groaning, and ſneeſe very much; they have an uneaſineſs and quick motion in their Flanks; they often gleet at the Noſe, and ſome throw out a yellowiſh curdel'd matter. They have but little appetite to Food, eſpecially to hay, but will eat their corn, and are for the moſt part hot after it. Sometimes theſe ſymptoms abate and give hopes of recovery, but the leaſt over-exerciſe, or error in feeding, brings them to their old paſs. Some look ſleek and ſmooth, tho' their Fleſh be waſting, others have rough and ſtaring Coats, and appear alſo to be ſurfeited; but theſe different appearances, are uſually owing to the different cauſes from whence the diſtemper has taken its origin.

The Prognoſticks.

WHEN a Horſe that has any of the abovementioned ſymptoms retains a tolerable appetite to food, holds out a long while without any great abatement of his ſtrength, or loſs of fleſh, it is always a good ſign; on the contrary, when he continues loſing his fleſh and vigor, it is a ſign of decay, even tho' he retains a tolerable appetite, and any ſuch Horſe will ſeldom recover. When a Horſe runs a yellowiſh gleet from his Noſe, or curdel'd matter, it always proves mortal, and ſhews the Lungs to be waſting, but if the matter be white, and well digeſted, and at times abates, with a gleet of clear water, it is a promiſing ſign, eſpecially if the Horſe be young; but even where the beſt ſymptoms appear, Conſumptions of all kinds are dangerous and uncertain, and every accident or error, expoſes conſumptive Horſes to relapſes, becauſe the foundation of his decays, is often owing to natural weakneſs.

The Cure.

As to the cure of Conſumptions, one of the principal things is bleeding, which ſhould be ſmall in quantity, but often, eſpecially in the beginning, before

before a Horſe loſes too much of his Fleſh; this helps to abate the hectick fever, which uſually attends Conſumptions, and is a relief to the diſorders of the Lungs. A pint at once, or a pint and a half from ſome Horſes is ſufficient, which may be repeated as often as they appear to be more than ordinarily oppreſſed in breathing. All thoſe things that are proper in colds, are profitable here alſo. The following Balls will likewiſe do good ſervice, if the Horſe be young.

Take Conſerve of Red Roſes, one ounce; Lucatellus Balſam, half an ounce; Sperma Ceti rub'd in a Mortar, and Sal Prunella, of each two drams; Syrup of Corn Poppies, what is ſufficient to make it into a Ball, to be rolled in Liquorice Powder, or Wheat Flower.

THESE Balls may be given one every morning for a week, and if they be found to do ſervice, may be continued during pleaſure, till the Horſe recovers his uſual vigor, and begins to gather ſtrength. A quart of the pectoral infuſion recommended for colds, may alſo be adminiſter'd after each ball made warm, diſſolving in it an ounce of Gum Arabick, or Gum Tragacanth, but if the Horſe ſcowers, or runs at his Noſe, ſo as to induce weakneſs, the following infuſion may be uſed.

Take Ground Ivy and Horehound, of each a handful; Red Roſe Leaves, half an handful; freſh Linſeed, and Liquorice Root ſliced, or Juice of Liquorice, of each half an ounce; Saffron, one dram; Gum Tragacanth, an ounce; infuſe them in a quart of boiling Water, letting the Infuſion ſtand covered till cold.

THIS may be made milk-warm, and given every morning after the Ball with the uſual precautions, that is, faſting two hours before, and two hours after; allowing him not above a quartern of ſcalded bran, for when ſcalded bran is often given, and in great quantities, it hurts a Horſe by relaxing too much, and is greatly injurious in all habitual weakneſſes. His oats ſhould be the hardeſt and ſweeteſt that can be got, and his feeds alſo ſmall, that he may not be cloy'd. His hay ſhould alſo be the fineſt, and the duſt well ſhook out of it, and given in ſmall portions, that he may digeſt it eaſily. But nothing contributes more to the cure of a Conſumption, than air and exerciſe, tho' any exceſs in the latter is dangerous, and therefore a weak conſumptive Horſe, ſhould only be led, or rode by a perſon of a light weight, and if ſhort-breath'd, ſhould only be walk'd; he ſhould be continued in

Air and moderate Exerciſe abſolutely neceſſary for conſumptive anddecaying Horſes.

in the air, as much as poſſible, upon ſome dry common, or other place where the air is good, which is the moſt likely way to bring him to his ſtomach, and conſequently to his ſtrength, and if he mends by this management, there may be ſome hopes of his recovery, provided he be young; but if he be full-aged or old, or if he continues ſtill weak and faint, runs a viſcid gleet from his Noſe, has a fullneſs of the Glands under his Jaws, coughs much, and waſtes in his Fleſh, and grows weak, with a ſtinking breath, it will not be worth while to beſtow any labour or expence to ſave him.

I HAVE ſeen ſome young Horſes continue in this conſumptive way for ſeven or eight months, with a great deal of care and good nurſing, and at ſome intervals, give the owners hopes of a recovery, but at laſt have died waſted and rotten; I have ſeen others go off in a much ſhorter time, and not ſo much decay'd; and I have known ſome recover that have run at the Noſe for two or three years together, but then this running has abated very much at times; the matter was always white and well digeſted, and when that ceaſed at any time, there was generally a gleet of clear or whitiſh water. Theſe Horſes always retained their appetite to food, and did not loſe their fleſh, but would go through their buſineſs tolerably well, with good uſage, though if they were put to it a little more than ordinary, they were the worſe for it; and thoſe who have had much practice this way, may obſerve, that theſe Horſes ſeldom recover perfectly, till they are about ſeven or eight years old, then their ſnottineſs goes off, and ſome of them after that grow hardy and uſeful.

THERE is another kind of ſnottineſs, which ſometimes turns to a rot, and happens when the ſtrangles have never come to maturity, or have been opened before the impoſthume was ripe; they generally have a profuſe running at both noſtrils; and when this continues, the Horſe grows extremely weak, loſes his Fleſh, and at laſt it affects his Lungs and brings him into a conſumption; but this is a curable caſe, and when it proves otherwiſe, it is generally owing to neglect or ignorance; but the reader may conſult what has been ſaid concerning the ſtrangles, where this ſymptom is particularly treated of.

As for thoſe Horſes that are of hot fiery tempers, and ſeem naturally diſpoſed to hectick and conſumptive fevers; I have often obſerved that few of them are of any great value; yet if any ſuch happens to excell in his goings, the beſt way to preſerve him, is to feed him often in ſmall portions, as has been already adviſed, not to over-work him, nor to ſuffer him to carry too great a weight. The ſpring graſs is alſo good for ſuch Horſes, houſing them at night,

night, while the weather is cold; by ſuch uſage ſome of theſe have had their conſtitutions greatly mended, and become ſerviceable.

An Atrophy is another kind of Conſumption, to which Horſes are ſometimes ſubject, where a Horſe has little or no cough, no running at the Noſe, nor ſcarce any ſymptoms of a hectick fever, eats his meat tolerably well, and yet continually waſtes in his Fleſh, and grows at laſt very much hide-bound: this is a dangerous malady, and, for the moſt part, proceeds from a ſurfeit or hard uſage, and ſometimes ends in the farcy or glanders. Several gentlemen have been at ſome pains and expence by trying various experiments for curing favourite Horſes that have been declining in this manner, though without effect; for I have obſerved, in many ſuch caſes, the Glands of the Meſentery, and other lymphatick Glands, very much enlarged above their natural ſize; and as many of the Meſenterick Glands are chiefly ſituated among the Lacteal Veſſels, ſo when theſe are ſwoln, and grown hard and ſchirrous, they are apt to hinder the Chile and Lympha from mixing with the Blood, which deprives a Horſe of his proper nouriſhment, and therefore nothing can produce a cure in this caſe, but what is of ſufficient efficacy to force through the obſtructions of the glands, and this muſt be done ſpeedily or not at all.

Therefore, before a Horſe is too far waſted, give him two drams of Calomel in any of the common horſe-balls, in the morning before meat or water, letting him faſt two or three hours after it: his food muſt be ſcalded bran and the ſweeteſt hay, while he is under this courſe; he muſt have no cold water, nor ſuffered to be wet. The day after this doſe of Calomel let him have a mild purge, for a Horſe in this ſtate will not well bear thoſe that are ſtrong, and therefore I would adviſe the following:

Take the fineſt Succotrine Aloes, ten drams; freſh Jallap in powder, and Saffron, of each a dram; grated Ginger, one dram; Salt of Tartar, half a dram; Syrup of Buckthorn, what is ſufficient to make it into a ball.

The mercurial ball and purge may be repeated three times, allowing a week between each.

Take Native Cinabar, or Cinabar of Antimony, one pound; Gum Guiacum, the ſame quantity; make them into fine powder, and mix them well together; give the Horſe an ounce twice a day, wetting his feeds.

This

This may be done in the intervals between the purges, and continued afterwards till he recovers and begins to gather ſtrength, and then air and exerciſe may perfect the cure. I have known ſome ſuch Horſes cured with the ſpring graſs, when the diſtemper has not been of a long ſtanding. The ſalt marſhes are the beſt, eſpecially thoſe where the ſoil is the moſt open and ſoon dry; but if a Horſe has been long in this declining way, and the diſtemper fixed and obſtinate, there is danger of the glanders, by his feeding continually with his Head downwards, ſometimes the farcy, and if he eſcape theſe, he will be apt to turn dropſical upon his being taken up; but the reader may conſult what I have written concerning hide-bound Horſes.

CHAP. VI.

Of the Diſeaſes of the Stomach.

I HAVE often obſerved, that Horſes are liable to diſtempers of the Stomach, which bear an affinity to thoſe of the human body, and proceed from the ſame cauſes, and are often attended with the like effects. In fevers and all inflammatory diſtempers, Horſes are greatly affected in their Stomachs, and loath all manner of food. The ſame will happen in extreme pain, whether inward or outward; the reaſon of which has been accounted for, from the mechaniſm of the ſtomach, and its ſympathy with all the other parts of the body. I ſhall therefore proceed to thoſe diſorders that are more peculiar to the ſtomach itſelf, without the participation of any other concomitant diſtemper, which may be reduced to theſe two, *viz.* the *want of appetite*, and a *voracious appetite*.

Of the want of Appetite.

BY the want of appetite we do not here ſuppoſe a Horſe to be totally off his ſtomach, as in fevers, and in caſes of exceſſive pain, but only when a Horſe feeds poorly, and is apt to mangle his hay or leave it in the rack; and this frequently happens to Horſes that have too much corn given them, which abates their appetite to hay; ſome Horſes are alſo nice and dainty, but will eat tolerably, when their hay is picked, and free from duſt, eſpecially when it is full of the herb and well got; but without ſuch qualities in the hay, will eat but little. There are others that will eat tolerably well,

when

when they ſtand much in the ſtable, and do but little buſineſs, but loſe their ſtomachs whenever they come to be worked a little more than ordinary; and ſome of theſe may be obſerved to feed little for ſeveral days, after one day's hard riding. However, we are not to reckon any Horſe a poor feeder from the meaſure of his food, for we ſee ſome Horſes that are ſmall eaters, and yet go through a great deal of fatigue and exerciſe, without much diminution of their fleſh, or any great alteration in their appetite; neither are they more choice than others in what they eat: therefore theſe Horſes can hardly be reckoned bad or poor feeders, but little eaters; and any attempt to make them eat better would perhaps do them more harm than good.

The uſual cauſes of the want of appetite.

But when a Horſe feeds poorly, and does not gather much fleſh; when his dung is habitually ſoft, and of a pale colour, it is an evident ſign of a relaxed conſtitution, wherein the weakneſs of the ſtomach and guts may have a very great ſhare. This habitual weakneſs may either be natural and hereditary, or may be cauſed by ſome previous ill management, ſuch as too much ſcalded bran, or too much hot meat of any kind, which relaxes the tone of the ſtomach and guts, and in the end produces a weak digeſtion, and conſequently the loſs of appetite. I have known ſome of theſe kind of Horſes of little uſe, till they have been very near full-aged, yet after this turned out good ſerviceable Horſes, and do a great deal of buſineſs. The beſt method to harden and recover ſuch Horſes, is to give them much gentle exerciſe in the open air, eſpecially in dry weather; never to load their Stomachs with large feeds, and keep them, as much as poſſible, to a dry diet, indulging them now and then with a handful of beans among their oats; but if the caſe be ſo, that the Horſe grows weak, and requires the helps of phyſick, I ſhould adviſe to begin with ſome few laxative purges, as the following:

The Cure.

A proper purge for a Horſe that feeds poorly.

Take Succortine Aloes, ſix drams; Rhubarb in fine powder, two drams; Saffron dry'd and powdered, one dram: Make it into a ſtiff ball, with a ſufficient quantity of Syrup of Roſes, and add two drams of the Elizir Proprietatis, prepared with the Oil of Sulphur by the bell.

This purge will work very gently, and bring the Horſe to a better appetite, and ſtrengthen his digeſtion. It may be repeated once a week, or once in ten days, and after the operation of each purge

Take a large handful of the raſpings or ſhavings of Guiacum, Pomegranate Bark, and Balauſtines bruiſed, of each an ounce; Gallangals,

and Liquorice Root ſliced, of each half an ounce: Let theſe be boiled in two quarts of ſmith's-forge water, to three pints, and while it is warm, infuſe in the decoction two drams of Saffron, and half an ounce of Diaſcordium.

LET this be divided into two drinks, and give one after the purge has done working, and the other after two days intermiſſion; in cold weather the drinks ſhould be warmed before they are adminiſtered; the ſame may be complied with after the laſt purge, and repeated as often as may be neceſſary, continuing to give the Horſe conſtant exerciſe in the open free air; and this will be the likelieſt method to ſtrengthen ſuch Horſes as are of weak relaxed conſtitutions.

The cure when the want of appetite has been owing to over-feeding.

BUT where ſuch a habit is only contracted by too much feeding, eſpecially on ſoft ſcalded diet, which is often the caſe of young Horſes, kept up for ſale; the beſt way is to bleed and purge ſuch Horſes, and, at the ſame time, to rowell them on the Belly; for this ſort of feeding eaſily expoſes Horſes to be lax that have no natural diſpoſition to it; for when they grow ſuddenly fat by ſuch management, the ſecretions from the Guts becomes greaſy, which always cauſes weakneſs and relaxation in them, and often forms a proper Nidus for the breeding of vermin; all which may be eaſily remedied, by purging in the firſt place, and afterwards by proper exerciſe, and a clean diet.

When the want of appetite proceeds from a hot fiery diſpoſition, it is hard to be cured.

As for thoſe Horſes that are of a hot fiery diſpoſition, and loſe their appetites with their heat and freting, it is a caſe that cannot eaſily be remedied, becauſe of the natural inflammatory diſpoſition of their Blood; the only method is to keep them to a cool diet, while they are young, and, in country places, let them run abroad, eſpecially where they have ſtables and warm ranges, to keep them from the inclemency of the weather in winter, for theſe ſort of Horſes are always tender, being for the moſt part extremely thin-ſkined, and their Blood of a thin texture and eaſily ſet on motion; and for the ſame reaſon, the beſt way, in the ſummer, is to bring them up in the day-time, and only let them run abroad in the night, they being more hunted with the flies than any other, which keeps them continually upon the fret, and hinders them from thriving. When ſuch Horſes live till they are full-aged, their heat and fireyneſs often abates, ſo that they grow more uſeful, but while they are young, they are more ſubject to inward abceſſes, and impoſtumations, than Horſes of a cooler temperament, and theſe often kill them ſuddenly, or bring them into lingering conſumptive maladies, which, in ſome meaſure, may be prevented by the method herein laid down.

Of

Of a Voracious Appetite, and of Foul Feeders.

IF voracious or foul feeding is not altogether to be accounted a diſeaſe, yet it may be the cauſe of various maladies, and is often the effect of ſome latent diſtemper, as vermin, which have a quite different effect on ſome Horſes to what they have on others; for as Horſes of a lax habit of body often loſe their appetites by worms, and are frequently griped and ſickly in their Bowels, ſo Horſes of ſtrong rigid conſtitutions, that can bear the irritation thoſe animals make in their inteſtines, are often voracious in their appetites, and are continually craving after food.

A voracious appetite in a Horſe deſcribed.

FOUL feeders differ in ſome things from thoſe that have voracious appetites, for as theſe crave only after their common food, and can hardly ever be ſatisfied, thoſe on the other hand, *viz.* foul feeders, will leave their hay to eat their litter, and ſeem to like it the better when it is well ſauced with their own dung and urine; and therefore they may be properly ſaid to have a vitiated or depraved appetite. Tho' this does not always proceed from a voracious appetite, yet the firſt is often productive of the latter, and may probably be occaſioned by enlarging the capacity of the Stomach and Inteſtines to ſuch a degree, that nothing will ſatisfy their cravings but what has weight and ſolidity; for the ſame kind of Horſes will eat mold and wet clay, or any kind of foul naſty weeds out of the ditches, and in the ſtable will eat ſtinking muſty hay, which the generality of Horſes will refuſe.

Foul feeders differ in ſome reſpects from thoſe Horſes that have voracious appetites.

THERE are others of depraved appetites, that are neither foul nor voracious feeders, ſuch as we often obſerve eat dry lome or mud out of the walls, which perhaps denotes ſome vitiated juices in their Stomachs; and this alſo is frequently owing to vermin, or at leaſt to a bad digeſtion, tho' perhaps not to any natural imbecility in their conſtitutions; for tho' theſe Horſes have a longing after thoſe extraneous things, yet their appetites at the ſame time ſeldom fail; but as this is often owing to full feeding, with the want of ſufficient exerciſe, ſo we often ſee them recover and quite loſe that vitiated taſte, when they come to ride a journey or go upon any other conſtant exerciſe.

Some Horſes have depraved appetites.

THE beſt method in all theſe caſes of a vitiated or depraved appetite, is to begin with purging, and to diſſolve chalk in their water, and afterwards to give them good exerciſe. The ſame method may be complied with to thoſe that feed voraciouſly. To theſe the following draught may alſo be given, to blunt their appetites.

The Cure.

Take a large handful of the Roots of Marſh-Mallows, Comin Seeds, and Fœnugreek Seeds, of each an ounce; Liquorice Roots ſliced, half an ounce; boil in three pints of water till the Roots are ſoft and ſlimy, then pour off the decoction, and diſſolve in it an ounce of Gum Arabick, and add four ounces of Linſeed Oil.

Let the Horſe have four hornfuls of this every morning faſting, till his appetite abates. If the Horſe be lean, which many voracious feeders are, he will gather more fleſh under this management, and as his fleſh increaſes his appetite will abate.

Foul feeders, how they ought to be managed.

As to foul feeders, many of theſe begin with voraciouſneſs, and when they come to be ſtinted, fall on eating their litter to fill their Stomachs, and in time take a great liking to it; and it is obſervable that many of the Horſes that go broken-winded have this evil faculty; and therefore I ſhould adviſe any one who has a foul feeding Horſe, to keep his ſtall as clean as poſſible, to let no wet dirty litter lie under him, nor to put his litter under the manger, but to beſtow it on ſome other Horſe, otherwiſe they will paw it out and feed upon it greedily; but clean ſtraw that has not been ſoaked with horſe-piſs and filth, will never hurt any Horſe; for tho' there is no harm in the urine, yet when the ſtraw has been ſoaked in it with the dung, it often turns into a wad, or like a ſpunge in their Bowels, and cauſes great diſorders. But when their wet litter is taken away every morning, it may be the means to make them leave off that ill habit.

CHAP. VII.

Of the Diſeaſes of the Lower Belly.

The diſeaſes of the Lower Belly often prove fatal to Horſes, there being many circumſtances attending them when they happen to be violent, as fevers, convulſions, inward mortifications, *&c.* which renders them difficult to perſons of ſuch mean education as the farriers generally are. For theſe maladies being often ſituated in parts that give no ſenſible demonſtration of ſickneſs or diſorder, as the diſtempers of the Head, which are manifeſt from drowſineſs, heavineſs, ſwelling and inflammation of the Eyes, and other palpable ſigns; nor as thoſe of the Cheſt or Middle Venter, where the Lungs are for the moſt part affected with a cough and ſhortneſs of

of breath. But we find ſeveral parts of the Lower Belly diſeaſed without any great ſigns of pain or ſickneſs, or even ſo much as loſs of appetite, ſuch as happen ſometimes in diſtempers of the Spleen, Liver and Kidneys, eſpecially in diſeaſes of the Meſentery, to which not a few Horſes are ſubject, whereby they grow miſerably lean and hide-bound, ſwell in their Limbs, and ſometimes their Bellies, and at laſt fall into an incurable decay; ſo that it is not eaſy to find out the ſeat of thoſe maladies, but by long experience and a competent knowledge of the animal œconomy, and the diſeaſes peculiar to Horſes.

The maladies that have their chief ſeat in the Abdomen, or Lower Belly, may be properly reduced to theſe, *viz.* The cholick and gripes of all kinds, with a ſtrangury, or ſtoppage of urine; the diſeaſes of the Kidneys, and Meſentery; the yellows, and jaundice, and other diſtempers of the Liver; coſtiveneſs, ſcouring and diarrhœa, worms, and ſometimes a diabetes. In treating of which, I ſhall proceed in the beſt method I can to render them eaſily underſtood, ſo as they may be cured with more certainty than they have been hitherto by the Practitioners in Farriery.

Of the Cholick and Gripes.

THERE is ſcarce any diſtemper more uſual among Horſes than the gripes, and ſome Horſes are more ſubject to theſe diſorders than others, particularly thoſe addicted to crib-biting, who by ſucking in the air, often fill their Stomachs and Guts to ſuch a degree with wind and vapour, that they ſwell prodigiouſly, and look as if they were ready to burſt, till ſome means are uſed to give them vent.

Crib-biters moſt ſubject to the gripes.

I have already deſcribed the manner of cribbing in diſcourſing of the defects of Horſes, and what I have imagined to be the cauſe of it; and therefore I ſhall haſten to the cure. The ſigns in crib-biters of the cholick being in common with other cholick pains, ſuch as often lying down, and riſing ſuddenly with a ſpring, occaſioned by the violence of the pain; a Horſe in this condition rolls about and tumbles, and often turns upon his Back. This ſymptom generally proceeds from a ſtrangury or ſtoppage of urine, which almoſt always attends this ſort of cholick, and perhaps cauſes p in and fulneſs, or inflammation of the Kindeys, with a diſtention of the aſcending trunk of the *Cava*, by which poſture of lying on his Back he may receive ſome interval of eaſe. The ſtoppage of urine may alſo be in-

The ſigns of the gripes.

creaſed from a plenitude of dung in the ſtreight Gut; for Horſes often find ſudden relief from raking and the dung drawn out by the hand; ſo that by removing the preſſure upon the the Neck of the Bladder, a vent is given to the urine, which while it is detained cauſes exquiſite pain, excites convulſions and violent ſweats, that are uſually ſucceeded with cold damps, which ſometimes prove dangerous.

These ſigns are common in the gripes and in all cholicks, to which Horſes are any ways ſubject. As to the diagnoſticks, they will appear ſufficiently plain in the proceſs of the cure, and therefore to Horſes that are given to crib-biting, where the diſtemper proceeds chiefly from wind and flatulency, attended for the moſt part with coſtiveneſs, and almoſt always with a ſtranguary; the firſt intention in this caſe is to empty the ſtreight Gut with a ſmall hand, being firſt anointed with oil or hogs-lard, which ſometimes alone makes way for the wind that was pent up, to vent itſelf, whereby the Horſe alſo ſtales and gets eaſe.

The uſe of bleeding the mouth in the gripes.

Our farriers and grooms uſually ſtrike a fleam into the bars of a Horſe's Mouth when they perceive him to be griped, which I think is of uſe, at leaſt, I never knew any hurtful accident happen from thence; for though ſometimes Horſes will bleed a great deal, from the ſmall arteries diſperſed upon the bars of the mouth, when they lie ſuperficial, yet this is eaſily remedied, and ſeldom needs any other means to ſtop it than dry bran, or to waſh the Horſe's Mouth ſeveral times with ſharp vinegar and ſpirit of vitriol, if it prove more than ordinary violent. The Horſe generally champs and ſwallows moſt of the Blood, which being in ſome degree repleniſhed with vital ſpirits, may therefore have virtues of which we may be ignorant; at leaſt of the many inſtances I have known of this kind, I never found any hurt by it, or that it was any hindrance to the cure.

Riding Horſes in the gripes not always ſafe.

It is uſual in all caſes of the gripes to ride the Horſe a good full trot, partly to keep him from lying down and rolling, and partly to warm him thoroughly, and cauſe him to dung and ſtale. Indeed, when a Horſe is blown up with wind, with a ſtoppage of dung and urine, a little ſtirring may no doubt be very proper. But when a Horſe in this condition is hurried along till he ſweats violently, and continued in that manner till he is worn out and jaded, which is often done, it always proves injurious, and ſometimes fatal. The exceſs of pain in the gripes, for the moſt part raiſes a ſymptomatick fever, whereby the Blood is rarified and greatly agitated, and the veſſels filled and dilated, eſpecially thoſe of the Lungs, and alſo thoſe of the Brain, which is eaſily ſeen by the redneſs, inflammation and fixedneſs of the Eyes, and in the Lungs by the ſhortneſs of breath; and

when to this is joined the fulneſs and diſtention of the Belly, and a ſuppreſſion of urine, all theſe things render exerciſe, unleſs it be extremely moderate, very dangerous, and may cauſe the ſtaggers, pleuretick ſymptoms, and ſometimes burſtenneſs. Two inſtances of which I have known in old Horſes, which could proceed from no other cauſe but riding them beyond their ability, by which they fell down, and by their great weight and incapacity to help themſelves, were both burſten. One had a rent in his Stomach ſeveral inches long, at which I was ſomewhat ſurpriſed, and could account for it no other way than from the texture and mechaniſm of a Horſe's Stomach, which is far thinner than any creature I know of the ſame ſize and bulk; from the great age of the Horſe, whereby the fibres of his Stomach were grown rigid, dry, and criſpy, which rendered them the more fragible, and conſequently the more eaſily broke aſunder. The other was alſo old, and had the Gut Colon, which is very thin, burſt, and part of his excrements diſcharged into the cavity of his Lower-Belly. Which inſtances have always been a ſufficient caution to me not to ſuffer Horſes in the gripes to be haraſſed beyond their ability; and which is a common method, to be dragged about till they are jaded. And as this is a matter of ſome conſequence, whereby Horſes are often brought ſuddenly to their end, I ſhall therefore lay down the method I have always found the moſt ſucceſsful to prevent ſuch accidents.

Inſtances of burſtenneſs in the gripes.

Cautions to prevent dangerous accidents, when Horſes are griped.

When a Horſe is ſeized with the gripes, the firſt intention is generally to prick him in the Mouth with a fleam or horn, as abovementioned. Afterwards let the ſtreight Gut be examined, and if he happens to have any quantity of dung lodged in it, let him be raked and emptied, let the ſtate of the Horſe be alſo enquired into, and if the gripes proceed from cribbiting, the following ball will ſeldom fail of giving him relief.

The propereſt method to manage Horſes in the gripes.

Take Straſburg or common Turpentine, and Juniper Berries, pounded, of each half an ounce; Sal Prunellæ, an ounce; Sperma Ceti, two drams; Chymical Oil of Juniper, one dram; Salt of Tartar or Salt of Wormwood, two drams; make into a ball, with a ſufficient quantity of Syrup of Marſh-Mallows, to be given immediately.

If the Horſe does not break wind backwards, and ſtale plentifully, he will not be eaſy, and therefore another ball may be repeated about two hours after the firſt, and if he roll and tumble, and appears to be full of pain, add to it a ſcruple of ſalt of amber, and repeat it again in about two hours

hours more, and the Horſe will both void dung and urine; and by that means get clear of his diſorder.

The common Methods often hurtful.

THIS is preferable to the common method of adminiſtring oil of turpentine, or geneva and pepper, beef brine, and ſuch other things commonly uſed in the Gripes, which often heat and inflame the Blood, excite feveriſh ſymptoms, and cauſe too great a force and irritation on the Neck of the Bladder, which frequently proves hurtful; whereas the method I have here recommended, ſeldom or never fails. Theſe balls may either be thruſt down whole, or where there is difficulty in adminiſtring balls, may be diſſolved in a pint of warm ale, and given as a drench; they warm and comfort the Stomach and Bowels, and at the ſame time relax and cool the Urinary Paſſages; which is a very great benefit in all ſuch caſes, wherein they are ſo very efficacious, that very often one doſe makes a perfect cure.

THE proper diet for Horſes in the Gripes, is ſcalded bran, and warm gruel, with the beſt hay that can be pick'd, after the pain is removed, for till then they will neither eat nor drink. I never chuſe to have them rid during the fit, more then a gentle trot or walk, but to have a place well litter'd with freſh ſtraw, where there is ſufficient room for them to roll and tumble; there ought alſo to be one or two perſons conſtantly to look after them while they are in pain, to prevent their hurting themſelves, which they are apt to do unleſs they are carefully attended. The firſt ſign of a Horſe's recovery, is when he lies quiet without ſtarting or tumbling, gathers up his Legs, and ceaſes to lath out, eſpecially if he continues an hour in that quiet poſture, we may conclude all the danger is over.

The Signs of Recovery.

When the Gripes are complicated with inward Inflammation, how to be diſtinguiſhed

THIS method is ſufficient in all common caſes, where Horſes are affected with the Cholick and Strangury. But the Gripes are often attended with ſymptoms that are obſtinate, as inflammation of the Guts, and other internal parts, which not being rightly underſtood, frequently prove fatal, and even the moſt ſimple Cholick, may by ill management acquire ſuch complications as may be dangerous. Many diſorders are alſo ſometimes taken for the Gripes, which are owing to other cauſes, as inflammations in the Lungs, inflammations of the Liver and Kidneys, or other parts within the Abdomen. When in the Liver, the Eyes and Mouth always look yellow, or of an orange colour, and Horſes will ſometimes in this caſe, be inclined to the ſtaggers; when in the Lungs, they will become all of a ſudden ſhort-breath'd, and at firſt diſcover many ſymptoms of the Gripes; however, in this caſe a Horſe ſeldom lyes down, but often gathers himſelf together, and makes motions as if he would, and when he chances at any time to lye down, he never lays his Head, nor turns himſelf upon his Back to roll and tumble,

but

but breaths exceſſively ſhort, and riſes ſuddenly, not being able to indure the preſſure and ſtricture upon his Lungs. When the inflammation happens either in the Lungs, or in the Liver, the Horſe turns his Face round, and looks wiſhfully to the affected ſide, as in a violent Cholick, but then he both dungs and ſtales without any difficulty, and never offers to break wind, as grip'd Horſes always do; in which caſes bleeding plentifully is of great uſe, with coöling and balſamick medicines, as in pleuretick diſorders. If the Horſe looks yellow, ſo as to give ſuſpicion of an inflam'd Liver, he muſt be treated as in the yellows.

Dry and humid, or moiſt Cholicks.

BUT a genuine Cholick proceeds chiefly from a diſtemperature of the Guts, and is always dangerous when theſe are inflam'd. That ſort which begins with a ſquirting, and ſome appearances of looſeneſs, is much more dangerous than that which is cauſed by coſtiveneſs, which may be eaſily remedy'd if taken in time, with emollient glyſters and other opening medicines; but the other for the moſt part takes its origin from the ſmall Guts, which inflames the Colon and Meſentery, and often ends in mortification. In this caſe, a Horſe generally throws out a little looſe dung, with a hot ſcalding water, attended with violent gripings, and often with a burning fever. If a diarrhœa, or continued purging follows upon this, it is uſually called the moiſt Gripes, and the Horſe for the moſt part does well, becauſe then nature caſts off what is offenſive to her; but if the purging be but little, and the water that iſſues from the Fundament appears of a blackiſh or reddiſh colour, and of a fœtid ſmell, it is a ſign of mortification. I have known Horſes ſeveral times relieved in this caſe, with the following cheap Ball.

The latter ſometimes ends in Mortification of the Guts, &c.

Take Diapente, an ounce; Diaſcordium, half an ounce; Myrrh in Powder, two drams made into a Ball; with two drams of unrectify'd Oil of Amber, roll'd in Liquorice Powder.

The Cure of an inveterate Cholick.

LET this be given as ſoon as poſſible, and repeated about four hours afterwards. If the Horſe recovers, it will be proper to give him two or three mild purges to prevent relapſes.

To a Horſe of value the following method may be followed.

Take Rhubarb in Powder, half an ounce; Diapente, an ounce; Salt of Tartar, two drams; grated Ginger, and Oil of Juniper, of each one dram, make it into a Ball, with a ſufficient quantity of Oil of Amber.

Purging after Cholicks uſeful.

LET

LET this be repeated once in two days, and every morning and night three or four hornfuls of the following decoction may be adminiſter'd.

Take Jeſuits Bark in groſs Powder, three ounces, boil it in Water wherein hot Iron has been quenched, or in clear Forge Water, from half a gallon to a quart, adding to it a pint of Red Wine.

WHEN the firſt decoction has been all uſed, the Bark may be boiled a ſecond time, to draw out the remaining part of its virtue, and given as before; and if the Horſe continues in pain, and ſtill throws out a ſcalding fœtid water, a quart of the ſame decoction may be made uſe of for a glyſter, diſſolving in it two ounces of Turpentine, with the Yolks of two new-laid Eggs, adding a pint of Red Wine, and an ounce of Diaſcordium diſſolv'd in the warm decoction. This method will often ſucceed, when the Guts are diveſted of their Mucus and excoriated; and where a mortification is threatned, half an ounce of Mel Ægyptiacum, and two ounces of Tincture of Myrrh may be added. This indeed I have never yet made trial of, but am pretty much perſuaded may be of uſe, to cleanſe away the foulneſs that attends eroſions in the Bowels.

THUS much I judged neceſſary concerning thoſe frettings in the ſmall Guts, or in the Gut Colon, or Blind Gut, which ſometimes end in gangrenes, and mortifications, and may poſſibly proceed from punctures of thorns, or other things taken in with the food of Horſes, they almoſt always come ſuddenly, but when ſuch ulcerations are the effect of a bad conſtitution, or long continued ſickneſs, there is ſeldom any hopes of a recovery.

The dry Gripes in what manner to be managed.

I ſhall now proceed to thoſe Cholicks that ariſe from coſtiveneſs, or from drinking cold water when Horſes are hot, both which cauſe ſudden frettings in the Guts, which ſometimes proves dangerous. In the firſt of theſe caſes, *viz.* when the Gripes proceed from coſtiveneſs, which may be known by his frequent, and often fruitleſs motions to dung, its blackneſs and hardneſs, the frequent and quick motions of his Tail, the high colour of his Urine, fulneſs, dulneſs, liſtleſneſs, and other ſigns. This being plain and apparent, may be eaſily remedied by emollient glyſters, and mild purgatives, as has been already mentioned. But as coſtiveneſs when obſtinate, and of long continuance, ſometimes alſo produces ſymptoms of the ſtaggers, ſuch complications ſhould always be attended to, for which the reader may conſult what is ſaid under that head; where the cure of coſtiveneſs is fully treated of, and the proper means to be followed after that ſymptom is removed.

THE

The gripes that ariſe upon drinking cold water when a Horſe is hot, ſeldom needs any other remedy, than one or two warm cordial balls, made ſomewhat diuretick, and keeping the Horſe in conſtant motion for ſome time after they are given. One of the propereſt medicines for the purpoſe is this:

Take the Seeds of Aniſe, Cumin, and Fennel, of each half an ounce; Caſtor, and Camphor, of each one dram; Pillitory of Spain, and Saffron, of each half a dram: Make into a ball with Syrup of Marſhmallows, adding forty or fifty drops of Oil of Juniper, or Oil of Aniſeeds.

But if other ſymptoms ſhould ariſe beſides gripes, which are ſometimes cauſed by ill management, ſuch as heat, panting, dryneſs of the Mouth, and the ſeveral attendants of a fever, then recourſe muſt be had to plentiful bleeding and other evacuations, with pectorals and balſamicks, ſuch as have been directed already in pleuriſies and peripneumonies.

Remarks on Horſes that have died of the cholick.

In Horſes that die with gripes, there is ſeldom any thing to be ſeen beſides inflammation and mortification in the Guts, or a tendency to mortification; the Stomach, and the firſt of the ſmall Guts, are generally free from taint, and when the Lungs, or other principal Viſcera happen to be inflamed, the inflammation is but ſmall, being only the conſequence of the fever, cauſed by the pain. But the ſmall Gut, that anſwers to the *ileon* in men, is often black and criſped with the extreme heat, eſpecially when the ſeat of the diſtemper happens to be in that Gut; and when it is ſo, the Colon is, for the moſt part, alſo affected, and full of red and livid ſpots. In ſome, the ſeat or origin of the diſtemper ſeems to be in the Colon, eſpecially towards the lower end, and ſometimes the Valves or Purſes of the Colon will be diſplaced and intangled, which the farriers and collar-makers, who open dead Horſes, improperly call, a twiſting of the guts. I once ſaw a fine Horſe opened, that died with the gripes, when, to the farrier's great ſurprize, no defect could be found, to cauſe his death; ſo that I deſired a more particular examination to be made, and in turning over the Purſes of the Colon, I diſcovered ſome black and livid ſpots upon the lower part of it; and the blind Gut, which lies next the Colon, was hid by the other Guts, extremely black and thickened, and its inſide, with part of the Streight Gut that leads to the Fundament, extremely rotten and mortified.

THESE obſervations ſhew why ſuch diſtempers prove ſo ſuddenly mortal, from whatever cauſe they proceed, whether from punctures of prickly herbs in their food, or from inward tumors, ariſing from a vitiated depraved Blood, which may lie hid a long time without any ſigns of diſorder, till they become inflamed. From hence alſo, we may diſcover the reaſon of that heat and burning we obſerve in the Fundament, with the iſſuing of blackiſh fœtid matter, which ſometimes comes from thence along with the dung, and is generally the forerunner of death.

Of Worms.

SOME authors, eſpecially the *Italians*, who have taken their deſcriptions of diſeaſes chiefly from the writings of phyſicians, mention ſeveral kinds of vermin in the Bodies of Horſes, ſuch as are ſaid to be in the human body; but, by the ſtricteſt enquiry I could make, I never found more than three ſorts, *viz.* Bots, which many young Horſes are ſubject to in the ſpring; thoſe that reſemble earth-worms, and which by phyſicians are called, *Teretri* or *Rotundi*; thoſe that are about the ſize of the largeſt ſewing-needles, with flat heads. And whatever variety is obſervable in all theſe kinds, conſiſts chiefly in the difference of the ſize and colour, which are only things accidental: for the Bots that breed in the Stomachs of Horſes, and are ſometimes the cauſe of convulſions, appear to be of the ſame kind with thoſe in the Streight Gut, being only ſomewhat larger, and of a more reddiſh colour, which ſeems only owing to this, that they are filled with a more florid blood from the Horſe's Stomach, being the ſame in ſhape and figure, both having little ſharp prickly feet along the ſides of their bellies, like the feet of hog-lice, which, by their ſharpneſs, like the points of the fineſt needles, ſeem to be of uſe to faſten them to the part where they breed, and draw their nouriſhment, and to prevent their being looſened from their adheſions, before they come to their maturity; for when they are ſqueezed and emptied, both appear the ſame, being no other than a very large maggot, made of circular rings, as all other maggots generally are.

Horſes ſubject to three ſorts of worms.

The Bots deſcribed.

THE earth-worms are of the ſame kind with thoſe we often ſee come from children that are groſs feeders, reſembling the common earth-worms in many reſpects, only that they are ſharper at both ends, are more callous towards the middle, and do not ſo eaſily contract or dilate themſelves. In children, and in grown perſons too, they ſeldom exceed ſix inches in length; but I have ſeen them come from Horſes, larger than a man's finger, and

The *Territes* or earth-worms.

about eighteen inches long, and ſome of them that I have ſlit open full of eggs; theſe ſeldom hurt Horſes, but hinder them from thriving, till they are diſlodged.

The ſmall worms like needles reſemble thoſe in the human body, called *Aſcarides*; ſome of them are white and ſome of an azure colour, with flatiſh heads. Theſe are very troubleſome and hard to be rooted out, and expoſe Horſes the moſt of all others to frequent gripes, and other fretting uneaſy diſorders in their Guts. The *Aſcarides*, or needle-worms.

As to the cauſe of worms in Horſes, it is probable, ſome conſtitutions may be more inclinable to breed worms than others, from a groſs habit of body; ſometimes they are the effect of ſickneſs, eſpecially old ſurfeits, whereby the juices being contaminated, eaſily putrify. But the moſt uſual cauſe of worms, is foul or high feeding, which breeds crudities and ſlimy indigeſted matter in the Stomach and Bowels (eſpecially Horſes that have been pampered for ſale) forming a proper *Nidus* to bring the eggs to maturity. Theſe eggs are ſuppoſed to be conveyed into their Stomachs with their food; and if it be true what ſome authors affirm, that many ſickneſſes are owing to animalcula floating in the air, and that the eggs of theſe animalcula being too minute to be perceived by the naked eye, may inſinuate themſelves imperceptibly into the minuteſt canals, in ſuch a manner, as to corrupt the whole maſs of blood; how much more eaſily may we conceive in what manner the eggs of a larger ſpecies may be conveyed into the principal and chief canals of the animal body with the food, and produce thoſe diſorders we are here deſcribing. The cauſe of worms in Horſes.

The ſigns of worms in Horſes are various, according to their different kinds. The Bots, that many Horſes are troubled with in the beginning of ſummer, are always ſeen ſticking to the Streight Gut, and are often thruſt out with the dung, along with a yellowiſh coloured matter, like melted ſulphur; they are no ways dangerous there, but are apt to make a Horſe reſtleſs and uneaſy, and rub his breech againſt the poſts. The ſeaſon of their coming is uſually in the months of May and June, after which they are ſeldom to be ſeen, and rarely continue in any one Horſe above a fortnight or three weeks. Thoſe that take their lodgements in the Stomach, are extreme dangerous in cauſing convulſions, and are ſeldom diſcovered by any previous ſigns before they come to life, when they bring a Horſe into violent agonies; but the reader may have recourſe to what has been already ſaid of that kind of convulſions which proceed from vermin, &c. The earth-worms, for ſo I chuſe to call them, becauſe they reſemble that ſort moſt, give little diſturbance to a Horſe, and would hard- The ſigns. Bots common in the months of May and June, eſpecially among young Horſes.

ly be diſcovered, unleſs they were ſeen now and then to come away with the dung. Frequently Horſes void one or two, and no more; and ſometimes Horſes will void pretty large quantities of the young brood, not much larger than the *Aſcarides*, only of a red colour, and not white as the *Aſcarides* generally are; they are moſt uſual in autumn, or the beginning of winter, though a Horſe ſhall now and then void one or two of theſe at other times of the year. But the *Aſcarides*, or ſmall worms, are very troubleſome to Horſes, and breed at all times of the year, and often when one breed is deſtroyed another ſucceeds. Theſe are not mortal, but when a Horſe is peſtered with this ſort of vermin, though he will go through his buſineſs tolerably well, and ſometimes feed heartily, yet he always looks lean and jaded; his hair ſtares as if he was ſurfeited, and nothing he eats makes him thrive; he often ſtrikes his hind Feet againſt his Belly, which ſhews where his grievance lies, and is ſometimes griped, but without the violent ſymptoms that attend a cholick or ſtrangury, for he never rolls or tumbles, but only ſhewsuneaſineſs, and generally lays himſelf down quietly on his belly for a little while, and then gets up and falls a feeding; but the ſureſt ſign is, when they void them with their dung.

The ſigns of the ſmall worms or *Aſcarides*.

Now as to the cure. If a Horſe is troubled with Bots, he may be relieved without much expence or trouble, only by giving him a ſpoonful of Savin, cut very ſmall, once or twice every day, in oats or bran moiſtened, and if three or four cloves of chopped Garlick be mixed with the Savin, it will do better, for Garlick is alſo a great deterſive, attenuates viſcid matter, and keeps the body open, which is of great ſervice in all theſe complaints. And moreover, Horſes that are troubled with Bots, ought afterwards to be purged with aloetick purges, before the weather grows too hot; and if they be kept to a clean diet after their purges, it will be a great chance if ever they are troubled with them any more. As the Bots generally happen about the graſs ſeaſon, I have obſerved theſe Horſes that are turned to graſs often get rid of them there, by the firſt fortnight's purging; and therefore thoſe that have the conveniency of a good paſture for their Horſes need not be very ſollicitous about giving them medicines.

The cure of Bots in the Streight Gut.

THE earth worms which the writers in phyſick call *Teretes* or *Rotundi*, are beſt conquered by aloetick purges, for they often come away in purging, when, till then, it has not been known that the Horſe was troubled with them; and it has been obſerved, after theſe have been voided, the Horſe has throve better, grown much more lively, more active, and more attentive to his buſineſs. There can ſcarce be a better purge to deſtroy vermin than the

the following, and whoever makes trial of it, will for the moſt part find it anſwer his expectation.

Take of fine Succotrine Aloes, ten drams; freſh Jallap, in powder, one dram; Areſtrochia Longa or Rotunda, *viz.* the long or round Birth-wort, and of the cleareſt Myrrh, both in fine powder, of each two drams; make it into a ſtiff paſte, with a ſufficient quantity of Syrup of Buckthorn, if the Horſe be ſtrong and a good feeder, if not, with Syrup of Roſes, and add to it rectified Oil of Amber and Oil of Savin, of each one dram. Roll it into a ball with Liquorice Powder or Flower. A proper purge to deſtroy vermin.

Some prefer the *Barbadoes* Aloes for Worms, thinking it the more efficacious becauſe of its rank ſmell. Its operation is very rough, and may be given to hackneys and other Horſes of ſmall value; but I never found it more efficacious for deſtroying worms than the Succotrine, at the ſame time that it expoſes a Horſe more to gripes and other dangerous diſorders, unleſs it be worked thoroughly off. The following is a cheap purge of this kind, and well corrected, *viz.*

Take *Barbadoes* or Plantation Aloes, one ounce; Salt of Tartar, two drams; freſh Ginger, grated, a dram and a half; Oil of Amber, a middling ſpoonful.

Moſt of our common practitioners do nothing more than to work an ounce of courſe Aloes into a ball before a warm fire, and when they have dipped it in oil, give it without any other preparation. But I have known ſome of our farriers boil a pound of coarſe Aloes in water, then ſtrain it through a piece of canvas, and ſo evaporate it over the fire, throwing away the coarſe part or reſidue that remains in the bag, and make their purges out of that which they think they have purified and refined. But this ſort of Aloes neither works ſo kindly or efficaciouſly as the other, however it may be purified or corrected, and therefore ſhould never chuſe to give it to a Horſe that I ſet a value upon.

The *Aſcarides* or ſmall worms ſometimes come away in great numbers with a purge, and ſome Horſes get clear of them with purges only; but this does not often happen, for the Horſes that breed *Aſcarides* above all others are ſubject to ſlime and wormy matter: The *Aſcarides* in the human body are thought to be ingendered in the ſtreight Gut near the Fundament,

but

but in Horſes I never perceived any other than Bots adhere to that Gut. But theſe worms in them ſeem to have their lodgment about the beginning of the ſmall Guts, near the Stomach, among the concocted aliment or chyle, both from their colour and the ſymptoms of the gripes, and ſudden fits of ſickneſs theſe Horſes are often ſeized with, which ſometimes makes them abruptly leave off their food for a few minutes, and fall greedily to it again as ſoon as the ſick fit is over. The Bots in a Horſe's Fundament are often ſeen ſticking near the *Sphincter Ani*, and are continually dropping off with the dung, or may be pulled away with the fingers, and while they are there make a continual titulation or itching near the *Sphincter Ani*, which may be eaſily perceived by all the geſtures and motions of the Horſe; but the others are ſeldom ſeen but when a Horſe has had a purge given him, or when he falls into a natural purging, which thoſe Horſes are often ſubject to, and then they come away in very great numbers, with much ſlime and naſtineſs. The vermin in the ſtreight Gut ſeldom alters a Horſe's looks, but theſe not only make a Horſe grow lean and look ſurfeited, but in opening his Mouth one may perceive a more than ordinary languid whiteneſs, and a ſickly ſmell, from the want of thoſe due ſupplies of blood and nouriſhment, which gives a livelineſs to the colour that is always perceivable in the Mouths of ſound vigorous Horſes; ſo that whatever be the primary cauſe, theſe worms ſeem in a great meaſure to proceed from a vitiated appetite and a weak digeſtion, which renders them the more difficult to be removed; for which purpoſe recourſe muſt be firſt had to mercurials, and after theſe, ſuch things as are proper to ſtrengthen the Stomach, promote digeſtion, and give a better tone to the Solids.

The *Aſcarides* or ſmall worms how they affect a Horſe.

THEREFORE to a Horſe that is ſubject to theſe ſmall white or azure-coloured worms, the following method may be obſerved.

The cure of the *Aſcarides* and all other kinds of worms and wormy matter in the Bowels of Horſes.

Take of Calomel that has been often ſublimed and well prepared, two drams; Diapente, half an ounce; make it into a ball, with a ſufficient quantity of Conſerve of Wormwood, or of Rue, and give it in the morning, letting the Horſe be kept from meat and water four hours before and four hours after.

THE next morning adminiſter one of the purges above preſcribed, taking great care to keep the Horſe from wet, or from any thing that may expoſe him to catch cold. His purge may be worked off in the ſtable with warm water, which is much the ſafeſt way when mercurials are given. The Calomel ball and the purge may be repeated in ſix or eight days; and

again

again in ſix or eight days more. Or the following mercurial purge may be given, which will be leſs troubleſome and no leſs efficacious.

Take Crude Quickſilver, two drams; Venice Turpentine, half an ounce. Rub the Quickſilver with the Turpentine in a mortar till no gliſtning appears; then add an ounce of Succotrine Aloes, in powder, and a dram of grated Ginger; make it up into a ball, with a ſufficient quantity of Syrup of Buckthorn, and about thirty or forty drops of the Chymical Oil of Savin.

LET one of theſe mercurial purges be given as the foregoing, *viz.* one in ſix or eight days, with all the ſame precautions. It will work mildly, and with little or no griping or ſickneſs.

ANOTHER mercurial purge proper to deſtroy worms and wormy matter.

Take Diagridium, Ceruſe of Antimony, and Calomel, of each two drams; Succotrine Aloes, ſix drams; grated Ginger, one dram; make it into a ball, with a ſufficient quantity of Syrup of Roſes, and thirty or forty drops of Oil of Savin, Oil of Cloves, or Oil of Aniſeeds. To be given as the other.

WHEN a Horſe has gone through a courſe of theſe mercurial purges, let the following drink be given two or three times a week, which may be continued as long as needful, *viz.* till the Horſe begins to thrive and look healthful.

Take Rue, Chamomile Flowers, and Horehound, of each a handful; Gallangals, bruiſed in a mortar, three drams; Liquorice Root, ſliced, two drams. Boil it in a quart or three pints of Forge-water five or ſix minutes, in a covered veſſel, and keep it covered till cold, then ſtrain it through a piece of coarſe canvas, and give it in the morning upon an empty Stomach.

SOME have a great opinion of Powder of Tin as an infallible cure for worms. But it is very troubleſome to make, and perhaps not ſo infallible as ſome have imagined. This is prepared by melting down any quantity of Tin in a crucible, pouring it hot into a wooden bowl, and rolling it round till part of it is turned to a greyiſh powder. Then melting down the

Powder of Tin greatly recommended for deſtroying of worms.

The manner of reducing it into powder.

the remaining part, and rolling it again, continuing this operation till all that can be reduced to powder is obtained from it. This may be given to half an ounce or ſix drams.

Antimonial and other mineral preparations uſeful for the ſame purpoſe.

Most of the preparations of Antimony are efficacious for deſtroying worms, Sulphur is alſo good in all ſuch caſes; and even crude Antimony in fine powder, given with equal parts of Sulphur often ſucceeds, *viz.* an ounce in the morning and another at night: Liver of Antimony, *Crocus Metallorum*, or *Stibium*, has alſo the ſame effect. The *Æthiop*'s Mineral, or the *Mercurius Alkaliſatus*, viz. two drams of the latter, or half an ounce of the former, made into a ball, with conſerve of Roſes, or incorporated with a ſufficient quantity of any cordial ball, and given twice or three times a week, for a fortnight, are of great efficacy. Powders made of Cinibar or Cinabar of Antimony, with Gum Guaiacum, as in the Farcy and obſtinate Surfeits, will effectually deſtroy worms, after purging and other neceſſary evacuations, and be no hindrance to a Horſe's buſineſs. But if a Horſe be of a weakly conſtitution, and a bad feeder, I would above all things recommend the laſt mentioned bitter draught to be alſo complied with, which will promote a good appetite and help digeſtion; and to this may be added an ounce of Guaiacum, which by ſweetning the Blood may help to remove the original cauſe from whence the moſt dangerous and troubleſome kind of vermin are produced; for when worms and wormy matter is bred by high feding, want of air and due exerciſe, or from unwholeſome food, they may be often removed by a contrary regimen, without medicines, at leaſt with the help of a very few things; ſometimes with Rue and Garlick, Savin, Tanſy, and other ſimples. But when worms are the produce of natural weakneſs, or owe their production to any fault in the conſtitution, that contaminates the Blood and diſpoſes the Juices to putrefaction, the cure will then be difficult and tedious, and may require an alteration or change of the whole habit of the body before that can be affected.

Of a Lax and Scouring, and of a Diarrhœa.

ALL Fluxes of the Belly in Horſes, are generally included under the names of a Lax and Scouring. When a Horſe, falls a purging and continues but a ſhort ſpace in it, or when he is more than ordinarily open, and dungs like a cow, it is called a Lax, and when the purging continues, though it amounts to what we call a Diarrhœa in men, he is only ſaid to

ſcour.

ſcour. As for a Dyſentery, *viz.* when Blood, or when Blood and Slime come away with the excrements, it is a ſymptom that ſeldom happens but when a Horſe has been wounded in the Guts, or has received ſome uncommon treatment, and not the meer effect of a Diarrhœa. That Horſes are not ſubject to Dyſenteries, perhaps may be owing in a great meaſure to their horizontal poſition, whereby the *Inteſtinum Rectum* is leſs affected in purgations, than it generally is in Men; beſides the violent gripings that are almoſt always the concomitants of a Diarrhœa, ſoon deſtroy a Horſe, if they are not removed in a moderate ſpace of time, ſo that it ſeldom ariſes to a Dyſentery or Bloody Flux.

The Cauſe of Scouring in Horſes.

SCOURING and looſeneſs in Horſes may proceed from various cauſes. Sometimes from colds, or whatever ſuddenly ſtops perſpiration, will cauſe an inward redundancy, and go off in purging; ſometimes Scourings proceed from exceſſive feeding, or from unwholſome food; and purging is ſometimes the effect of hard riding, or other violent exerciſe, which inflames the Bowels, and this is often attended with a diſcharge of ſlime and greaſy matter, eſpecially in fat Horſes that have been high fed, and have not been previouſly harden'd with exerciſe; and we frequently find Horſes of weak relaxed conſtitutions, throw out their food indigeſted with a Lax, whenever they are put upon briſk exerciſe. Purging is often the effect of long, continued, weakning ſickneſs, and it may alſo proceed from old ſurfeits, or other chronical diſtempers, eſpecially thoſe that inflate, and breed indurations in the Meſentery and inteſtinal Glands. Worms and wormy matter, diſpoſe Horſes very much to ſcour and purge, and ſometimes a great glut of water, or eating ſome uncommon thing in their food, may have the ſame effect, but theſe purgings are generally of ſhort continuance.

The Diagnoſticks ſhewing when the ſymptoms are dangerous, and when favourable.

WHEN a Purging comes with a cold it is ſeldom dangerous, unleſs it be too ſuddenly ſtop'd. When it is the effect of exceſſive feeding, it always does good. As alſo the purging that comes upon ſtrong exerciſe, with a ſlight fever, which ſometimes happens to Horſes that have been foul, and unprepared for it, for this often prevents fevers, and inward inflammations, which otherwiſe might happen. Theſe Purgings that proceed from weakneſs of conſtitution are often tedious, and many Horſes do not get the better of this habitual Scouring till they are ſeven or eight years old. Purgings that proceed from old ſurfeits are often doubtful, and when they are the effect of any lingring ſickneſs, they generally prove mortal. When a Scouring proceeds from Worms, it ceaſes when the cauſe is removed, that is, when the Worms are deſtroyed, and the wormy matter carried off; and

when a Horſe ſcours with eating any laxative thing, or with drinking much water, it is generally of ſhort continuance.

The Cure. When a plethorick Horſe, *viz.* a Horſe that is foul, and full of Blood, falls a purging with a cold, or upon hard riding, it ſhould be incouraged in a moderate degree, with an open diet, and plenty of warm gruel; if he voids great quantities of ſlime and greaſy matter, which in ſuch caſes is not unuſual, let the following Drench be given, and repeated every other day, till he has taken three draughts at leaſt.

Take Lenitive Electuary, and Cream of Tartar, of each four ounces; Yellow Roſin in fine Powder, one ounce; powder the Roſin with the Cream of Tartar, and mix them with the Lenitive Electuary, then add four ounces of Sweet Oil, or freſh Linſeed Oil, and incorporate the whole with a pint of warm Ale, or Water-gruel.

This will fetch away a great deal of ſlime and naſtineſs, after which the Horſe will grow eaſy, and feed heartily, and if there be a ſymptomatick fever, it generally goes off with the purging. But if notwithſtanding this, his Dung continues ſtill to have a mixture of greaſe, or if it is covered with a ſkin or pellicle, it may be proper, as ſoon as he comes fully to his ſtomach, to give him two or three mild purges. I have generally ſucceeded in the cure of this ſymptom, with the following alterative ball, adminiſter'd twice a week, without any other thing beſides ſcalded bran, and warm water, or gruel.

Take Succotrine Aloes in fine Powder, half an ounce, or ſix drams; Diapente, an ounce; make it into a Ball, with the Juice of Spaniſh Liquorice diſſolved in Water, or White Wine, and about a ſpoonful of Oil of Amber.

To this may be added two drams of Myrrh, and if it be neceſſary to make it more cordial, a dram of Saffron in powder may alſo be mixed with it.

This ball by being ſeveral times repeated, will in many caſes, anſwer all the ends of purging Phyſick, and purify a Horſe's Blood from thoſe viſcidities, that come away with their Dung like ſlime or greaſe.

But when the purging begins with an acute fever, it requires a different treatment; as it ought not to be indulged with things that are very laxative and

and looſening, ſo neither ſhould it be ſtopped, unleſs the fever increaſes with the purging, and then the propereſt remedy is Rhubarb. For at firſt no reſtringent ought to be uſed, which has not ſomething of a purging quality in it. Rhubarb not only helps to drain away any foulneſs that lies fretting in the firſt Paſſages, but at the ſame time ſtrengthens the tone of the Stomach and Guts, and in this reſpect the *Materia Medica* does not furniſh ſuch another drug, and it is a pity it ſhould be often of ſo high a price, that it cannot be continued to any great purpoſe, but to Horſes of value. The *Indian* Rhubarb is much cheaper than that which is brought from *Perſia*, by the way of *Turkey* or *Ruſſia*, and if it happens not to be rotten or worm-eaten, will be found little inferior to the other. In all Diarrhœas, nothing is ſo proper as this drug, which may be given in the following manner.

Rhubarb the moſt proper Purge in a Diarrhœa.

Indian Rhubarb its Uſe.

Take *Indian* or *Turkey* Rhubarb, half an ounce, made into fine Powder; Lenitive Electuary, an ounce and a half; Saffron and Cinamon in Powder, of each a dram.

The night after the operation, give half an ounce of Diaſcordium in a pint of Red Wine; let the Wine be made warm, and then diſſolve the Diaſcordium in it. This draught may be repeated every day, and if the Horſe be of ſmall value, it may be diſſolved in Water-gruel, or Mint, or Sage Tea. The Rhubarb Ball may alſo be repeated once in two or three days, if the fever and purging does not abate. But if the diſtemper continues violent, if the Horſe's Flanks and Belly look full and diſtended; if he appears to be much grip'd and in pain, without an appetite to feed, the following Glyſter may be given, and the doſe of the Diaſcordium may be inlarg'd to an ounce. For a reſtringent Glyſter,

Reſtringents when to be uſed.

Take Chamomile Flowers, one handful; Red Roſes, half a handful; Pomegranate Bark bruis'd, and Balauſtines, (which are the Flowers of the wild Pomegranate) of each an ounce; boil in two quarts of Water to one quart, pour it off from the Ingredients, and while it is warm, diſſolve in it two ounces of Diaſcordium, and an ounce of Mithridate, and let it be injected immediately, and repeated once a day till the Fever and Purging abates.

These warm Glyſters, which are ſmall in quantity, that they may be the longer retain'd, greatly comfort a Horſe's Bowels, and ſoon give eaſe. And I have ſeldom known this method fail of ſucceſs, from my experience

in many inſtances. For when the fever, and other bad ſymptoms increaſe with the purging, a ſtop muſt be put to it with all poſſible ſpeed, a Horſe not being able long to indure the pain, ſickneſs, and faintneſs of a violent Diarrhœa, which generally ends in a mortification of the Guts, unleſs proper care be taken to prevent it. A Horſe after his recovery, ſhould at firſt have ſmall feeds, and pretty often, and his water in ſmall quantities and often; and if the weather be cold, his water ſhould be warm'd, and now and then a cordial ball may be given, to ſtrengthen and invigorate his Stomach and Bowels.

I ſhall now proceed to another kind of purging, which is common to many young Horſes, *viz.* where they are addicted to ſcour, without any palpable ſickneſs, or other very manifeſt cauſe, beſides weakneſs of conſtitution, or at leaſt where ſome previous error has been committed, either by keeping them too long on a warm looſe diet, and in the conſtant uſe of warm water, which too much relaxes and weakens their Bowels. Whatever this habit proceeds from, whether from natural weakneſs, or any kind of miſmanagement, if it continues obſtinate, ſtrengthners and reſtringents may be more or leſs needful, according as the ſymptoms may require. Horſes of hot fiery tempers are often liable to this malady, and will ſcour with every the leaſt exerciſe, and often their oats come away whole in their dung, from a weakneſs in digeſtion. The ſame alſo happens ſometimes to Horſes of a cold phlegmatick temper. And indeed very little can be done for the firſt, while they are young and unſettled, until they grow more temperate, and then they generally retain their food longer, and by that means receive more nouriſhment, which makes them look better, and grow ſtronger. The moſt likely method to help ſuch Horſes, is to be ſomewhat curious as to their diet, never to ſuffer them to drink their bellyfuls of water, but to give it often, and in ſmall quantities, for a large quantity of any kind of water, by its weight, will increaſe a ſcouring, where there is a habitual diſpoſition to purge. Such Horſes may be allowed a few beans, hard peas, or tares, when they travel, but at other times their Stomachs will not eaſily digeſt them. Their food ſhould be ſomewhat ſparing, and given in ſmall portions, that they may never be cloy'd, but may preſerve their appetites.

A proper Diet for young Horſes that ſcour.

These cautions are proper to be obſerved in dieting Horſes that have weak Stomachs, with a debility in their Bowels, and throw out their aliment indigeſted; and when the caſe proves obſtinate, and cannot be altered by a right œconomy in diet, and other requiſites, the following balls will do great ſervice.

Take

Take Pomegranate Bark, and Balauſtine Flowers, and Rhubarb, of each an ounce; Diapente, two ounces; Red Roſes dryed, half an ounce; let theſe be made into a fine Powder, and form'd into a Paſte, with a ſufficient quantity of a Mucilage made of the Seeds of Quinces, and give the Horſe the bigneſs of a Pullet's Egg at any time when he has a more than ordinary diſpoſition to ſcour or purge, and that his Corn continues to come away whole and indigeſted in his Dung. Balls to ſtrengthen the Stomach and weakneſs of the Bowels.

The way to make the mucilage of Quince Seed, is to take any quantity thereof, ſuppoſe an ounce, and boil it in a quart of water to a pint, then pour it off into a pan, and when it cools the liquor will be thick like a ſyrup.

To Horſes of ſmall value the following ball may be given twice a week.

Take Mithridate, and Diapente, of each half an ounce; Bole Armoniack, two Drams; make into a Ball with Liquorice Powder. A remedy for Horſes of ſmall value.

If the Horſe requires it more binding Venice Treacle, may be ſubſtituted inſtead of the Mithridate. But if the Horſe grows weak with a continued purging, half an ounce, or a whole ounce of Diaſcordium, in ſome caſes, may be added; eſpecially if the Horſe mends in his appetite upon the uſe of theſe things.

Sometimes Horſes of weak relaxed conſtitutions, are recovered with a ſummer's graſs. For tho' the graſs generally purges pretty briſkly the firſt fortnight or three weeks, yet after that the purging ceaſes, ſo that it ſerves to clear the Stomach and Guts from ſlime, or other matter that may fur up the mouths of the Lacteals, and hinder a Horſe's receiving nouriſhment from what he eats. The diuretick quality, which always reſides more or leſs in the graſs, contributes very much to drain away that habitual humidity in the Intrails, which brings on a habitual weakneſs in the conſtitutions of ſome Horſes; but now and then we meet with Horſes that have ſo much of a natural delicacy and tenderneſs, that no management has been able to do them effectual ſervice. Graſs ſometimes effectual inrecovering the Tone of the Stomach and Bowels.

Horſes that have been long ſurfeited are ſometimes apt to purge, and when this happens before their ſtrength is too far decayed, it always does good, and ſometimes recovers them. I remember a very extraordinary inſtance of this kind in a Troop Horſe, that had been a long time ſurfeited and hidebound, but always retain'd a good appetite to his food, tho' without thriving upon it; at laſt he fell into a purging which began about *Chriſtmas*, and continued all the following ſpring, till towards the month of *May*, before Horſes ſometimes cur'd of Surfeits with an habitual Purging.

before it abated; every time he dunged, his excrements came away as thin as if he had taken a ſtrong doſe of purging phyſick, but as he was all this while cool and in good temper, without a fever, or the leaſt abatement of his ſtrength or appetite, but had rather an increaſe of both, I judged it the beſt way to adminiſter nothing to him unleſs ſome dangerous ſymptom ſhould ariſe; but leave his cure wholly to nature, which came on gradually without the help of phyſick, or any other management beſides what was common to the other Horſes. And as the purging abated, he grew fat and luſty, and afterwards continued a fine healthful and uſeful Horſe. I have alſo known other ſurfeited Horſes do well with a natural purging of much ſhorter continuance, and only at certain intervals. But when ſurfeited Horſes in purging and ſcouring, loſe their appetites, and void their aliment undigeſted, it is generally a ſign of ſome inward defect and unſoundneſs, and if they grow weaker in purging, the laſt mentioned balls are proper to help them; tho' I think the beſt way in all ſuch tedious caſes, is to let them be turned out in the graſs ſeaſon, and taken up at night, until the nights grow warm, as well as the days; for graſs is as likely as any thing to repair the conſtitutions of Horſes that are broke with diſeaſes, hard labour, or violent accidents or neglects, or when they are too far gone to diſpatch them out of the way.

Violent purging in the end of long ſickneſs, for the moſt part mortal.

THIS leads me to the laſt kind of purging I ſhall have occaſion to mention, and which I have already hinted at in other parts of this Treatiſe, *viz.* thoſe violent deadly ſcourings which come with very violent or long continued ſickneſs, and reſemble the colliquative Diarrhœas that happen to the human body in many conſumptive caſes. I have been ſeveral times ſent for to Horſes in this condition, ſome of which have been quite worn out and decayed with the long continuance of the Farcy or other lingring diſtempers, whereby the whole maſs of Blood has been turned to ſlimy ſeroſities and greatly corrupted. Others have had putrid, peripneumonick, or hectick fevers, whereby the Lungs and other *Viſcera* have been tainted, and perhaps for want of ſufficient bleeding and other evacuations in the beginning, the whole maſs has been brought into a mortified ſtate, which generally terminates in a violent purging of fœtid ſtinking ſlime of a dirty brown colour, like brine. The ſame kind of matter generally runs from their Noſes, and the Glands of their Mouths and Throats are uſually inflated, and oftimes when the Lungs are impoſtumated a *Vomica Pulmonum* enſues; and when theſe break, the matter ſometimes ruſhes upwards into the Windpipe. This I have ſeen ſeveral times; for the moſt part whenever it happens, the Horſe is ſtrangled and expires. I never pretend to preſcribe when

when things are come to this paſs, for here no help can be given, and I have only mentioned them for gentlemen, or thoſe who practice farriery, for their better information, and to avoid unneceſſary expence.

Of Coſtiveneſs.

COSTIVENESS ſometimes proceeds from violent and hard exerciſe, eſpecially in hot weather, which by increaſing perſpiration too much, diveſts the Blood of its thinner ſeroſities, which is the cauſe of that heat and dryneſs which is obſerveable in Horſes that are bound in their bodies. Sometimes coſtiveneſs proceeds from a contrary cauſe, viz. from ſtanding long at hard meat without graſs or other cleanſing diet, and have but little air and exerciſe, or have their exerciſe only in ſpurts and not continued. When coſtiveneſs proceeds from either of theſe cauſes, it is eaſily remedied if taken in time. But there is another kind of coſtiveneſs in Horſes which is more hard to be removed, *viz.* that which ſeems to be natural or grown into a habit. We find ſome very good Horſes liable to this diſorder, and when it is of long continuance, they are apt to grow lean and emaciate, feel hot and dry, their hair ſtaring, and there is danger of ſome approaching ſickneſs. The uſual cauſes of coſtiveneſs.

IN the firſt caſe the cure is eaſy, only by giving him an open diet for ſome time, and if any thing more is wanting, lenitive mild purges are the moſt likely to ſucceed. In the ſecond, when coſtiveneſs proceeds only from want of air and exerciſe, and a cooling lax diet, it is no leſs eaſily remedied with proper lenitives, as *Glauber*'s Salt with Lenitive Electuary, *viz.* four ounces of each, diſſolved in warm ale or warm water; this may be repeated every other day, with ſcalded bran every day till the Horſe's body is thoroughly opened, giving him at the ſame time air and exerciſe, which will probably remove that lentor in the Guts, and carry off the viſcid ſlime ingendered there, which is the cauſe of his coſtiveneſs. Oily glyſters may alſo do good ſervice in this caſe, and when theſe things have been complied with, two or three purges will probably finiſh the cure. The Cure.

BUT that ſort of coſtiveneſs which ſeems natural to the conſtitutions of ſome very good Horſes, is not eaſy to be removed, and we find it ſeldom neceſſary to bring ſuch Horſes into a contrary habit; for where this is natural, it may proceed from a more than ordinary ſtrength and rigidity in the Fibrillæ of the Stomach and Guts, which makes them digeſt their aliment well, and retain their excrements longer, and when ſuch a habit Habitual coſtiveneſs how to be treated.

can be kept within any right medium, the Horſe will continue in ſtrength and vigour without any inconvenience; and it is obſerveable that theſe Horſes are for the moſt part able to indure great fatigue and labour. However, it is proper to give ſuch Horſes, at all convenient times, an opening diet. For if this habit by any accident happens to increaſe and grow into an obſtinate coſtiveneſs, ſo as to produce ill effects, as heat, dryneſs of the conſtitution, little ſcabby eruptions over the ſkin, and a rough coat, it will then be neceſſary to remove it in ſome degree, which cannot be done but by a continued uſe of emollients, and a looſe opening diet along with them.

PURGING is here alſo neceſſary, and ought by all means to be complied with; yet purging in the common way, with *Barbadoes* or other Plantation Aloes, ſeldom has any great effect longer than the purge is working; for when that is over the ſame habit of coſtiveneſs generally returns as ſtrong as ever. Scalded bran and our common opening diet ſeldom makes any great alteration in theſe Horſes, for I have known them continued for a month together or longer on marſhes, and remain coſtive all the time, tho' not to ſuch a violent degree as upon dry food. The aloetick purges will ſcarcely work, eſpecially if they be made ſtrong, and ſometimes they run off chiefly in urine, which does them but little ſervice in this caſe. But when the common purges have failed, the following will ſucceed beyond expectation.

Take Succotrine Aloes, ſix drams; Sperma Ceti, half an ounce; Fœnugreek ſeeds, in powder, two ounces; make into two balls, with a ſufficient quantity of Honey or common Treacle, and give them in the morning faſting.

LET the Horſe have ſcalded barley inſtead of ſcalded bran, and the liquor of the barley for his drink, milk warm. This will work very gently where ſtronger purges have little other effect upon coſtive Horſes than to make them ſick and griped. It ought to be repeated once in four days, and may be continued till he has taken ſix doſes. Let him have an ounce of Fœnugreek ſeeds once a day, in one of his maſhes, and when the purgation is over, continue the uſe of the Fœnugreek; and ſometimes give Linſeed in the ſame manner, either in his dry or moiſt feeds, until the Horſe grows ſmooth and well coated, and his dung moiſt and in good order.

Of

Of the Yellows and Jaundice.

HORSES are frequently ſubject to the jaundice, but in them the jaundice is ſeldom ſo much complicated with other diſtempers, as men, and therefore when diſcovered in time, it may for the moſt part be eaſily removed; tho' when it paſſes on unobſerved, as often happens, it induces very bad ſymptoms, as violent fevers, deliriums, madneſs, and at laſt convulſive diſorders; for which the reader may conſult what has been ſaid concerning the ſtaggers and convulſions.

THAT which properly conſtitutes the yellows or jaundice, is when too great a proportion of bilious matter is retained in the Blood.

THE cauſe is often the ſame that induces many other ſickneſſes among Horſes, *viz.* their catching violent colds; for I have obſerved many of their colds accompanied with fevers of the bilious kind. Full feeding and want of ſufficient exerciſe or evacuations, at ſome proper ſeaſon. Coſtiveneſs. Violent exerciſe cauſing too great a derivation of Blood into the Liver, eſpecially where the Liver is preternaturally large. Unwholeſome Food. Old ſurfeits inducing a bad habit of body. Theſe and many other ſuch cauſes produce the yellows in Horſes; and if we add to this, what may be obſerved from the ſtructure and mechaniſm of a Horſe's Liver, *viz.* that he has no Gall-Bladder, but only a pretty large pipe, with two or three ſmaller ones that open into it, we may reaſonably conjecture that a Horſe may be more eaſily ſubject to bilious diſtempers than other animals that have a proper receptacle for the gall; and I have often obſerved a tincture of yellowneſs in many of their diſorders. The cauſe.

THE ſigns of the yellows or jaundice in Horſes, are a duſky yellowneſs of the Eyes; the inſide of the Mouth and Lips, the Tongue and bars of the roof of the mouth look alſo yellow. But here we are to diſtinguiſh between the yellowneſs of the jaundice, and that yellowneſs of the Mouth and Eyes which ſometimes happens to Horſes as well as men, upon the criſis of an inflammatory fever, where the inflamed parts turn yellow when the fever and inflammation is going off. When this happens after a fever, the Horſe generally comes to his appetite, and looks lively, and the fever leaves him, the yellowneſs alſo ſoon wears off. But in the jaundice the yellowneſs is one of the firſt ſymptoms, and generally appears in the beginning of the diſtemper. The Horſe is dull, and refuſes all manner of food, and the fever begins ſlow, yet both the fever and the yellowneſs ſoon increaſe and grow together. In the decline of an inflammatory fever, a The ſigns of the yellows in Horſes. How the yellows to be diſtinguiſhed from the

yellowneſs that appears in the decline of a fever.

Horſe dungs and ſtales freely, and in a kindly manner. In the yellows the dung is often hard, dry, and of a pale yellow, or light pale green. The urine is commonly of a dark dirty brown colour, and when it has ſettled ſometime on the pavement, it looks red like Blood. He alſo ſtales with ſome pain and difficulty; and if the diſtemper is not ſoon checked all the ſymptoms increaſe, and the Horſe ſoon grows delirious and frantick.

The Prognoſticks.

THE jaundice in young Horſes is ſeldom dangerous, and when it comes with high feeding and want of ſufficient exerciſe, it is more eaſily removed than when it is brought on by hard riding or other hard labour, for by that means the Liver may become impoſtumated and ſoon turn rotten. In old Horſes, when the Liver has been long diſeaſed, the cure will ſcarce be practicable; for inſtance, a Horſe that has been a conſiderable while dull, heavy, and inactive, with a ſurfeited look, ſeems always aukward and unready in turning ſhort and twiſting his body, eſpecially to the near ſide. The off-ſide of his Belly hard and ſomewhat diſtended; if the yellowneſs of the Mouth and Eyes appears at the ſame time, we may then ſuſpect a diſeaſed Liver, and probably a ſchirrus; if theſe hard ſchirrous ſubſtances are ſmall and ingendered in the thinner lobes of the Liver, a Horſe may probably linger out a conſiderable time with that defect. But if the ſchirroſities grow large, or happen to be ſeated near the porus *Biliarius* or Gall-pipe, or the larger branches of the *Vena Porta*, the Horſe will grow exceeding weak and unable to endure the leaſt fatigue, the yellowneſs will increaſe, and if the owner can have patience to keep him without labour, he may then hold out to the laſt ſtage, that his Belly and Limbs ſwell, and a waſting Diarrhœa or ſcouring puts an end to his miſerable life; but when none of theſe laſt mentioned ſymptoms appear, but the Horſe retains a moderate degree of ſtrength and vigour, and the diſtemper, without any previous ſigns of ſickneſs or diſorder, there will be no fear of his recovery, if proper care is taken and proper means be applied.

The Cure.

IN the cure of the jaundice, the firſt intention is to bleed plentifully before the diſtemper is confirmed; for when the Liver happens to be inflamed from any cauſe, either by hard ſtraining, over feeding, or fulneſs of Blood, attended with a fever, proper evacuations have been often found alone ſucceſsful. But if the diſtemper be confirmed, it will be proper after bleeding to give ſome laxative glyſters. For in the beginning of the jaundice, Horſes are apt to be coſtive, and ſometimes coſtiveneſs alone, with a few other ſlight cauſes, has brought on the ſymptoms of that diſtemper.

IN

In this caſe the following glyſter will do good ſervice.

Take Mallows, Marſh Mallows, Mercury, and Pellitory, of each a handful; Chamomile-Flowers, half a handful; ſweet Fennel-Seeds, an ounce; boil in three quarts of Water to two quarts, pour off the decoction, and while it is warm diſſolve in it four ounces of Lenitive Electuary, and then add a pound of Linſeed Oil; to be given as ſoon as poſſible, the Horſe being firſt well raked, to fetch out any hard dung that may lie in the ſtreight Gut.

At the ſame time let the following decoction be made for his conſtant drenches.

Take Madder-Root and Turmerick, of each two ounces; the Roots of ſharp pointed Dock, or Burdock, wiped clean from the mould and ſand, and cut into thin ſlices, of either of theſe two handfuls; Rhaponticum, or inſtead thereof, Monks Rhubarb, cut or groſsly bruiſed, one ounce; Liquorice-Root, ſliced, half an ounce. Boil theſe ingredients in a gallon of Forge-Water to three quarts, and when this is done pour it off from the ingredients, and while it is warm diſſolve in it two ounces of *Caſtile* Soap. (*Venice* or *Joppa* Soap, will have the ſame effect,) Saffron, two drams. The Soap ſhould be cut into very thin ſlices, and the Saffron tied up in a rag, and ſqueezed in the decoction.

Give the Horſe three or four ſpoonfuls three times a day, and as ſoon as he begins to feed, twice a day will be ſufficient. But if the Horſe be delirious and unruly, which is often the caſe of thoſe that are full of Blood, the bleeding muſt be repeated either from the Neck or Thigh-Veins, which ſome people chuſe, and the following balls may alſo be given one with each drench, *viz.*

Take Diapente, two ounces; Aſſa Fœtida and Cinabar of Antimony, of each an ounce; Caſtor, half an ounce; Saffron, carefully dyed, two drams. Let the Cinabar, Saffron, and Caſtor, be made into a fine powder, ſeparately, then beat up with the Aſſa Fœtida and a little Honey, into a ſtiff paſte, which is to be ſoftened with a ſufficient quantity of Oil of Amber, and made into ſix balls, rolled in Flower or Liquorice Powder.

After the uſe of theſe with the drinks, the Horſe generally grows ſettled and quiet, and begins to feed, ſo that the drinks need only be given twice a-day between his maſhes. In three or four days the diſtemper for the moſt part abates, and then the balls may be laid aſide, to avoid unneceſſary expence, but the drinks ſhould be continued till the yellowneſs is quite gone, and till the Horſe feeds pretty heartily, and drinks his white water or gruel. When his Eyes look clear, and the inſide of his Mouth of a lively colour, there will be no further need of medicines, but if a defluxion falls upon his Eyes and ſhuts them up, with a ſwelling of the Eye-lids, which often happens when the diſtemper is near its criſis, and going off the drinks, muſt be continued once a day for a fortnight or three weeks at leaſt, to prevent blindneſs, for Horſes after this ſymptom are very apt to go blind, unleſs they be well ply'd with medicines, that are both deterſive and balſamick; and therefore to avoid expence, and the trouble of making drinks; the following balls may be given one every day, and continued a fortnight or three weeks.

Take Turmerick in Powder, and Diapente, of each two ounces; Caſtile Soap, two ounces; Cinabar of Antimony, one ounce; *Crocus Martis Aperiens*, ſix drams; Saffron in Powder, two drams; make into eight Balls with Honey, and give one every morning.

Mild purges neceſſary after the Yellows.

It may be neceſſary to give the Horſe two or three mild purges with Succotrine Aloes, as ſoon as he has recovered his appetite, and a moderate degree of ſtrength. Rowelling is alſo proper in the jaundice, eſpecially for young fat Horſes; tho' I have cured many Horſes of the Yellows, without the help of rowels, and have never known this method fail which I have here recommended, if the Horſe was not previouſly broke with diſeaſes. For when the Liver, or other internal parts have been any time diſtempered, when a Horſe exhibits more or leſs the ſigns above deſcrib'd, *viz.* a ſurfeited look, hardneſs and a tenſion on the right ſide of the Belly, or is obſerved always to labour in turning round, and is apt to flag with the leaſt exerciſe, it will ſcarce be worth while to loſe much time, or beſtow medicines upon him. In ſuch a caſe, a Ball two or three times a week made of Soap, Turmerick, and Saffron, *viz.* an ounce of Turmerick, half an ounce of Caſtile, or Venice Soap, and a dram of Saffron made up with Honey; and if the Horſe has at the ſame time a cough, and inward ſoreneſs, which often attends a diſeaſed Liver, and is a very bad ſign, the Ball may be made up by abating the Soap to two drams only, with two drams of Sperma Ceti, to moderate

How to know when the Liver is diſeaſed.

The Method to be followed in that Caſe.

moderate the deterſive quality of the Soap, with half an ounce of Cinabar. This method will not be very expenſive, and by long continuance may recover a Horſe, if the Liver is not impoſtumated, even tho' there may be ſomewhat of hardneſs or induration begun in it.

I do not remember to have ſeen Gall-Stones ingendred in Horſes Livers, as in the Livers of the horned Cattle, but I have ſeen them ſeveral times with Tubercles, full of ſtinking matter; and ſometimes Horſes that have dy'd of a ſymptomatick fever, riſing from an inflammation of the Liver, have their Livers reſembling black clotted Blood, and nothing remaining ſolid and intire, but the Membranous Parts, and the Coats of the larger Blood-Veſſels, the Glandulous Parts being turn'd into Grumes. This the Farriers and Collarmakers, improperly call rottenneſs of the Liver, tho' perhaps it has not been above two or three days, when the Liver has been found in all reſpects, except an over plenitude of Blood. And this I think is a ſufficient indication, how far it is neceſſary to bleed plentifully in all caſes, where the yellowneſs is accompany'd with a fever, and when the ſubject is young and full of Blood. This will alſo juſtify roweling, glyſters, and other mild purgations, at proper intervals, when the fever is abated, with the concurrence of thoſe deterſives that are uſual in the Yellows and Jaundice.

Of Ruptures and Burſtenneſs.

WHEN any part of the Guts or Caul, makes its way thro' the Muſcles of the Lower Belly, it is called a Rupture; when any part of the Guts falls into the Scrotum, it is ſaid to be a Compleat Rupture; when at the Navel, it is called an Umbilical Rupture. I once ſaw a fine *Spaniſh* Stone Horſe with a compleat Rupture; the ſwelling was ſo extreme large, that the Gut extended the Scrotum down to his Hock, that rendered the cure in a great meaſure impracticable. This was the only one of the kind I ever ſaw, and is a caſe that muſt ſeldom happen, the poſition of a Horſe's Body being ſuch, as cannot eaſily expoſe him often to Ruptures into the Scrotum, as Men whoſe poſture is erect. I alſo have ſeen a Gelding, where probably ſome part of the Gut or Peritoneum, had made its way thro' the vaginal Paſſage, into the membranous parts of the Sheath on the right ſide; for the Omentum or Caul, ſeldom reaches ſo low in a Horſe, his continual horizontal motion throwing it for the moſt part foreward in Rumples. The ſwelling was about the ſize of a Gooſe's Egg, a great part of which might be thruſt back

Ruptures deſcribed.

back with the Finger into the Cavity of the Lower Belly, but immediately re urn'd in the manner of a flatulent tumor; and perhaps there might be ſome portion of air along with it. The cure was never attempted, becauſe it was li.tle or no hindrance to the Horſe in his buſineſs, the ſwelling being gener.lly fuller when he ſtood ſtill, than when he work'd.

But the moſt uſual Ruptures are more upwards, and proceed from ſtrains in working, or from being ſtak'd or gor'd by Bullocks, violent kicks from other Horſes, very high leaps over gates and hedges; all which things ſometimes divide the Muſcles of the Lower Belly, and oft-times without piercing or rending the Skin, whereby a portion of the Inteſtines, with a part of the Peritoneum, and when the wound happens to be forward, part of the Cau may alſo be lodged where theſe Muſcles are ſeparated or divided, and ſo cauſe a ſwelling of a proportion and ſize equal to the rent made in the part. An inſt.nce of this kind I once ſaw, of a very fine *Flanders* Mare, that had a Rupture near her Navel of a conſiderable ſize, which however did not prevent her working, but as it grew larger it became troubleſome; and a very eminent and able Surgeon, imagining the ſubſtance to be fleſhy, and of the nature of a Wen, perſuaded me to have ſome trial made of it by exciſion, for it felt ſolid as ſhe ſtood on her Legs, which might be owing to part of the Caul (which is always roll'd forwards in working Horſes) and along wi h this, an adventitious growth of Fleſh, cauſed by the rending of the Mu'cles and Membranes, for when ſhe was thrown upon her Back, part of the ſubſtance went inwards, and plainly diſcovered her malady to be a Rupture.

Horſes ſubject to various kinds of Ruptures.

I have known ſome few inſtances of umbilical Ruptures, that have been c u ed by rowels in the Belly, when they have been cut too deep, and perhaps were f.erwards neglected. And I knew a Horſe with a Rupture of th s kind, perform a journey of ſeveral hundred m.les, without any great inconveni.ency, only that he always went ſlugg ſh at his fi.ſt ſetting out, but m.re chearfu'ly as he emptied himſelf. Nevertheleſs this is a very great defect, and few Horſes with ſuch infirmi.ies can be long uſeful. I have ſeen oth.er Ruptures, and theſe are indeed the moſt uſual, that puſh out on the ſi.es of the Lower Belly, where the *Tunica Vaginalis* paſſes thro' the Rings of the Muſcles, with the Sp.rmatick Veſſ.ls into the *Scrotum*; and in Gel.ings they ſeldom reach fu.ther than the firſt Ring, which is a little way above the Groin, but when they happen on the ſides of the Fl.nks, they are then for the moſt part owing to ſuch accidents as have been abovementioned. They generally bunch out about the ſize of a M.n's Fi.t, and are fulleſt when the Horſe ſtands ſtill in the ſt.ble, eſpecially after feeding

and

and watering, and in broken-winded Horſes they riſe and fall with the agitation of their Flanks; they are ſoft, and yield to the preſſure of the hand, and in moſt of them one may feel the vacuity thro' which the *Viſcera* make their way immediately to the Skin. But as there is no abſolute cure to be expected in ſuch caſes, the ſafeſt way is to feed moderately, and in ſmall quantities, with ſmall draughts of water, and to uſe ſuch Horſes gently. In all beginning Ruptures, a fomentation made of Oak Bark, boil'd in equal parts of the ſharpeſt Vinegar, and Smith's Forge Water, will be the moſt proper for a general application; for in Horſes, bandage and truſſes of any kind, are for the moſt part impracticable.

The Way how Horſes are to be managed in Ruptures and Burſtenneſs.

I ſhall conclude this ſubject with an inſtance of a very fine Gelding, that that was kill'd by a Rupture, and in a manner ſomewhat extraordinary and remarkable. This Horſe belong'd to a perſon of diſtinction, and was abroad with our Army in *Germany*, and the *Netherlands*. He received a hurt while he ſtood at the piquet along with ſome other Horſes; and went through his buſineſs very well two years, notwithſtanding that accident, but after a hard day's hunting, was taken with the gripes, of which he dy'd. I was ſent for to view his Entrails, where there was ſomething that ſurpriſed all that ſaw him opened. The Ring through which the *Tunica Vaginalis* paſſes, appears plainly in a Horſe to be form'd of the tendinous part of the Muſcles, has the ſtrength and firmneſs of a Ligament, and reſembles a hem or large oilet hole, ſuch as we ſee in the ſails of a ſhip; one half of this Ring was torn off from the Fleſh, and lay acroſs the Orifice, which tyed up a duplicature of the Colon ſo tight that nothing could paſs through it; which was the true cauſe of his ſudden death. I have briefly related this caſe, that thoſe who are employ'd about Horſes, may be ſo far informed in ſuch things as to examine them carefully when the Gripes, or any other ſudden diſorder ſeizes them. For if the Duplicature of the Gut had been forced back into the cavity of the Lower Belly, when he was firſt ſeized, his death might probably have been prevented; for this Rupture ſeldom appear'd larger than a Man's Fiſt.

CHAP.

CHAP. VIII.

Of the Diſeaſes of the Bladder, Kidneys, and Urinary Paſſages.

HORSES are very often ſubject to diſeaſes of their Kidneys, not from the ſame cauſes as men, *viz.* from intemperance of one kind or other, which produces may ill effects, but from accidents of various kinds. The ſtone is the moſt miſerable of all other diſtempers, to which thoſe parts are ſubject; ſometimes in the Kidneys and Ureters, and ſometimes in the bladder. I have been told of large ſtones found in the bladders of Horſes, but among all I have ſeen opened, I cannot ſay I ever met with ſtones either in the Kidneys, Ureters or Bladder, but have, for the moſt part, found the Bladder ſound, even when the Kidneys and others of the intrails have been faulty; nevertheleſs, I ſhall not pretend to doubt the veracity of what ſome have related, for ſtones have not only been found in the bladders of ſeveral animals, but in their ſtomachs, and in other parts of their bodies, as we may find in the writings of ſome diligent enquirers into ſuch things; but I may conclude, from my own knowledge, that the ſtone is a diſtemper ſeldom to be met with in Horſes, and therefore I ſhall not take up the reader's time, either with the deſcriptions we meet with of the ſtone, or the methods laid down for its cure, which I imagine would be of little uſe, and would neither anſwer the expence nor trouble, that the owner muſt have, to little or no purpoſe. And therefore I ſhall proceed to ſuch diſtempers in thoſe parts as are common and uſual, wherein the ſame applications are often made uſe of that are proper in the ſymptoms of the ſtone and gravel. As for the gravel, I have been no leſs careful to examine the pavements where Horſes have ſtaled, eſpecially in diſtempers that affect the Kidneys and urinary paſſages; and though I have often obſerved great impurities come away with the urine, yet ſeldom any thing like ſand or gravel, even when the moſt powerful balſamick diureticks were given.

Horſes rarely ſubject to the ſtone.

Of Hurts and Strains of the Kidneys.

HORSES receive hurts in their Kidneys ſeveral ways, ſometimes by drawing great loads in heavy grounds, ſometimes by carrying too great weight upon their Backs, eſpecially when it preſſes upon their Loins, and above all, when theſe burdens are continued ſo long upon them till they grow faint and weak, for then they are moſt apt to be injured; continued hard riding without giving a horſe time to ſtale, often hurts the Kidneys; going into ſtrong exerciſe when a Horſe is fat and full of blood, and otherwiſe unprepared for it; on the other hand, riding or hard-working Horſes, when they are poor and lean, or upon a low diet, or if this be not the caſe, yet if they be worked and laboured till they be faint and weak, as above-mentioned, their Kidneys, and ſometimes their other *Viſcera*, are alſo hurt and impaired. Sometimes external injuries on the Loins, will alſo affect the Kidneys, by inflaming them firſt, and this may be followed with impoſtumes and ulcers. And laſtly, colds and other accidents will affect the Kidneys, where there is a natural weakneſs in thoſe parts, of which we meet with frequent inſtances.

Horſes often diſeaſed from hurts in their Kidneys and urinary paſſages.

The uſual way whereby they receive ſuch injuries.

THE ſigns are weakneſs of the Back and Loins, difficulty of ſtaling, faintneſs, loſs of appetite, and deadneſs of the Eyes; the urine thick and foul, and ſometimes bloody, eſpecially after ſome violent hurt or ſtrain. A Horſe diſeaſed in his Kidneys can ſeldom back, that is, move ſtreight backward without pain, which is viſible as often as he is put to the trial; the ſame thing is no leſs obſervable in Horſes that have been wrung or wrenched in their Backs, only with this difference, that in the latter caſe Horſes ſeldom ſhew any great defect or alteration in their urine, otherwiſe than that it will be higher coloured than ordinary, neither will they loſe their appetite or fleſh, unleſs their Kidneys be alſo hurt, which ſometimes happens; if the diſtemper continues for any conſiderable time, the Horſe exhibits all the ſigns of a ſurfeit, which is owing to the want of a due ſeparation of urine from the diſeaſed Kidneys, which eaſily produces ſuch effects.

The ſigns of hurts in the Kidneys, &c.

DISEASES of the Kidneys always prove dangerous by long continuance, eſpecially if the Horſe grows weak, and breaks out in ſcabs and blotches; for ſuch Horſes generally turn conſumptive or glandered. When a fever attends a difficulty of ſtaling, it is often a ſign the Kidneys are inflamed, and may prove dangerous unleſs ſpeedily removed; the danger is ſometimes no leſs when the urine happens to be thick, ropy, and full of

Diſeaſes of the Kidneys dangerous

ſlime, or bloody matter, eſpecially when theſe ſymptoms laſt a conſiderable time without abatement, that the Horſe grows weak and feeble, and without a tolerable appetite to his food: but it is always a promiſing ſign, when a Horſe that is diſeaſed in his Kidneys, recovers his appetite and ſtrength, looks ſprightly in his Eyes; notwithſtanding there may be a diſcharge of turbid urine, provided it comes away without much pain and ſtraining: but when a Horſe begins to ſtale freely, when the dregginеſs and ſettlement abates, when his urine looks clear, or of a yellowiſh colour, we may then conclude him to be, in a great meaſure, out of danger. And when any of theſe ſymptoms proceed only from colds, they are ſeldom of ill conſequence, but may, for the moſt part, be eaſily removed, unleſs a Horſe happens to have a natural imbecility and weakneſs in his Kidneys, in which caſe, all hurts or accidents whatever, in thoſe parts, may prove dangerous.

The ſigns that promiſe a recovery.

When the diſorders of the Kidneys proceed only from catching cold, which may be known from the uſual ſymptoms of a cold accompanying the ſymptoms above deſcribed, the cold muſt be treated as the primary diſtemper, and therefore, whatever removes that, will probably remove the other, eſpecially by adding coolers and diureticks to ſuch balſamick medicines as are given for the cold, *viz.* ſuch diureticks as will be preſcribed for the diſorders of the Kidneys, that are cauſed by other accidents; it will be alſo proper, where there is a natural weakneſs in the Reins (as happens to ſome Horſes that are open, and not cloſe ribbed) to uſe ſuch Horſes with gentleneſs, for few of them are able to bear hardſhips, eſpecially while they are young; they ought alſo to be carefully fed, and in a proper mediocrity, neither too high nor too low, nor irregularly, by full feeding at one time, and ſtarving at another; their food ſhould alſo be wholſome and good; they ſhould never be over-loaded by carrying heavy burdens, or too great a weight of any kind, on the ſaddle or otherwiſe; and if by theſe cautions, or by any other proper means, Horſes with theſe defects, are preſerved unhurt, till they are ſeven or eight years old, ſome of them will turn out much better than expectation.

A proper diet for Horſes that have their Kidneys anyways affected.

But if a Horſe has received any hurt or injury in his Kidneys, by ill uſage of any kind, eſpecially from the cauſes above-mentioned; it will be proper to begin his cure with bleeding plentifully, to prevent inflammation; after this a rowel in the Belly will alſo be of ſervice, by making a derivation from his Kidneys. Inwardly the following medicines will be of great uſe to clear away the impurities by urine, and to heal the diſeaſed parts.

The cure of hurts and ſtrains of the Kidneys.

Take

Take Iriſh Slate in powder, and Sperma Ceti, of each an ounce; Sal Prunellæ or Nitre, ſix drams; make into two balls with a ſufficient quantity of Barbadoes Tar, and Liquorice Powder. Or this,

Take Lucatellus Balſam, an ounce; the roots of Florentine Orrice in powder, and powder of Liquorice, of each half an ounce; Sperma Ceti, ſix drams; Sal Prunellæ, half an ounce; make into two balls with Syrup of Marſhmallows.

Let either of theſe be given every morning till the Horſe has taken ſix or eight doſes, with a draught of the following decoction after each doſe.

Take Roots of Marſhmallows, wiped clean from the ſand and mould, but not waſhed, with the Roots of Parſley and Sparrow-Graſs, alſo wiped, and cut into ſlices, of each two handfuls; Coltsfoot and Horehound, of each a handful; Liquorice Root ſliced, an ounce. Boil in ſix quarts of Barley-Water to a gallon; pour off the Decoction to ſettle, then warm it again, and diſſolve in it an ounce of Gum Arabick or Gum Tragancanth, and a pound of Honey; a pint, or three half pints, for a doſe.

This may not only be given with the balls, but at any other time at pleaſure, and if the Horſe recovers upon the uſe of theſe things, that he ſhews no pain or labour in ſtaling, that his urine comes away freely and in ſufficient plenty, that he recovers his ſtrength and vigour, there will be little need of the further uſe of emollients and balſamicks; but the Horſe may have two or three mild purges given him to compleat the cure. Such as this,

Take Succotrine Aloes, one ounce; Myrrh and Gum Guaicum, of each half an ounce; freſh Jallap in powder, one dram; make into a ball, with ſix drams of Lucatellus Balſam, and about ſixty drops of unrectified Oil of Amber.

But if the diſtemper happens to be obſtinate, from the extreme violence of any hurt received, the bleeding ſhould be repeated, and the balſamick medicines may be continued. If he paſſes his urine with great difficulty and pain, give the following ball, *viz.* Repeated bleeding ſometimes neceſſary.

Venice Soap or Caſtile Soap, an ounce; Sperma Ceti and Myrrh in fine powder, of each half an ounce; cut the Soap and beat it together with the Myrrh; rub the Sperma Ceti with the Yolk of an Egg, and when they are all incorporated, make into a ball, with as much Venice Turpentine as will bind it.

Two or three of theſe may be made and given in a day, till the Horſe ſtales without pain, and his urine becomes of a right conſiſtence, and free from any purulent ſettlement; and when a Horſe arrives to this ſtate, the abovementioned purge may be given and repeated as often as needful.

But if after all, the Horſe loſes his fleſh and appetite, and at the ſame time continues to have a great diſcharge of foul turbid urine, eſpecially if it be fœtid, ſtinking, and with a bloody look, and a black or very dark ſettlement, it is a ſign one or both Kidneys are ulcerated, and ſuch Horſes generally turn conſumptive. And therefore, when an Atrophy or waſting comes on with a ſwelling of the Kernels about the Throat, the Horſe may be looked upon as incurable.

Of a Suppreſſion of Urine from a defect in the Kidneys.

The cauſes of the ſuppreſſion of Urine.

THIS is cauſed either by an inflammation of the Kidneys, when the ſwelling and diſtention happens to be ſo great as to fill up or preſs the ſides of the Pelvis, or when the Pelvis or Ureters are choaked up with ſtones, or other foreign matter, or from any numbneſs or other defect in the Kidneys, that may diſable them in their office of ſeparating the urine from the blood; in this caſe the bladder is generally empty, ſo that a Horſe will make no motions to ſtale, nor ſtand ſtradling as in other diſorders of the urinary paſſages, when the bladder is full, or the Urethra inflamed; but if he continues a few days in this condition, without a ſeparation of the urine, his Body will ſwell to a very great degree, and the urinous part of the Blood will break out in blotches all over him, and without ſpeedy relief, will prove deadly.

Men ſubject to the ſtone are ſometimes tormented with a ſuppreſſion of urine, ſmall ſtones choak up the ureters or kidneys, whereby the nerves become ſo affected, as to cauſe a deadneſs and inſenſibility in thoſe parts, which by that means are rendered incapable of making their proper ſecretions; but I believe Horſes are rarely ſubject to this malady, unleſs when their Kidneys are waſted or greatly diſeaſed, of which I have known ſome

few inſtances. The proper method of cure is to begin with the ſtrongeſt diureticks, and ſtimulating glyſters, and if there be a ſuſpicion of inflammation in either or both Kidneys or Ureters, bleeding plentifully at the Neck, at the Liver-Veins, Kidney-Veins, or Thighs, to the amount of three pints or two quarts. Inwardly let the following balls be given, and repeated two or three times the firſt day (for here no time muſt be loſt) and as often the next, for if a Horſe does not ſtale in thirty hours, his danger muſt be great, and his caſe deſperate. The cure.

Take Juniper Berries pounded, an ounce; Succotrine Aloes, and Sal Prunellæ in powder, of each ſix drams; rectified Oil of Turpentine, or that which comes firſt off the ſtill, called the Eltherial Oil of Turpentine, half an ounce; unrectified Oil of Amber, and the Chymical Oil of Juniper, of each two drams; make it up with Liquorice powder; this being too large for one ball, may be divided in two for one doſe.

Let the glyſter be made with two ounces of Barbadoes Aloes; two ounces of Turpentine, beat up with the Yolks of two Eggs; half an ounce of Jallap in powder; Nitre bruiſed, four ounces; Juniper Berries and Bay Berries bruiſed, of each an handful. Let theſe be infuſed in two quarts of a decoction made of Mallows and Marſhmallows, and add a pint of Linſeed Oil.

If theſe do not remove the complaints, rub the Horſe's Reins with a mixture of Oil of Turpentine and Oil of Amber, *viz.* four ounces of Oil of Turpentine, and two ounces of Oil of Amber, and lay a Cataplaſm over the ſmall of his Back and Kidneys, made of pounded Garlick, Muſtard-ſeed, Camphor, and Green Soap, *viz.* ſix heads of Garlick, a pint of Muſtard-ſeed, two ounces of Camphor, and as much Soap as will be ſufficient to make it into a due conſiſtence. This will penetrate very powerfully, and ſtimulate the Kidneys, in caſe they happen to be benumned by any diſorder in their nervous parts; and in caſe of inflammation, will even act as a bliſter, without the danger of a ſtranguary, and in that reſpect alſo do good ſervice. It ſhould be ſpread on a coarſe flannel cloth doubled, and bound on with a warm woolen cloth, and renewed once in two days, till the Horſe comes to ſtale freely; Calomel may alſo be of uſe, in caſe the Kidneys are not ulcerated, *viz.* two drams made up in a ball, and repeated in two days, and after theſe, the Horſe may be purged to carry off the effects

effects of the Mercury; this is the moſt likely method to prevent ulcerations of the Kidneys: but if both Kidneys ſhould happen to be ulcerated or waſted, when the abovementioned ſymptoms appear, there can be but ſmall hopes of ſucceſs; for while a Horſe retains the uſe of one Kidney, he may live a conſiderable time in ſome eaſy buſineſs, but will always be in danger, when by any accident the other happens to be affected, as in the following inſtance of a drum Horſe, which may ſerve to evince and illuſtrate the caſe before us.

The caſe of a drum Horſe that was long diſeaſed in his Kidneys.

THIS Horſe belonged firſt to a miller, where he had been accuſtomed to carry heavy loads upon his Back, by which both his Kidneys had been ſtrained and hurt; he came full-aged into the troop, and continued ſeveral years in it, but every winter was ſo full of eruptions, that his Hair looked as if it had been notched with ſciſſars. Theſe ſymptoms were, in a great meaſure, owing to the diſeaſedneſs of his Kidneys, as appeared afterwards, for he was often ſubject to ſuppreſſions of urine, and though he was always relieved by proper timely applications, yet theſe grew more frequent as he grew old, till the laſt attack, when he continued three days before he died without ſtaling or the leaſt diſpoſition to ſtale, during which time he never ſtood wide and ſtradling, as Horſes do when their Bladders are full and can have no vent, but would move his hind Legs and croſs them with great eaſe, till the next day, that his Leggs, and afterwards his whole Body, ſwelled, and broke out all over in moiſt watery blotches, notwithſtanding the ſtrongeſt and moſt powerful diureticks were given him, to promote the diſcharges by urine.

IN opening this Horſe, I found nothing remaining of his right Kidney, but a ſmall ſchirrous, the bigneſs of a pullet's egg, almoſt oſſified, and of no regular ſhape; the emulgent Veins and Arteries, the Ureters and Veſſels belonging to the Kidneys, were ſhrunk and almoſt dried up; the left Kidney was extremely large, and ſpungy in ſome places, in others ſchirrous and broke into ſeveral ragged interſtices, and ſo mangled that nothing of its true texture remained; ſo that it was impoſſible a ſeparation of urine could be any longer expected, and for want of this, his external parts were not only bloated and ulcerous, but there were great quantities of water ſeparated, both in his Cheſt and lower Belly.

I HAD once a troop Horſe that recovered, with many of the ſame ſymptoms; but, as I had reaſon to apprehend, did not proceed from any previous hurt or injury, but from a fever that greatly affected his Nerves, by which his Kidneys were probably benumned and inſenſible. This horſe could not ſtale, neither did their appear to be any urine in his Bladder, having no

oppreſ-

oppreſſion on that part, nor any diſpoſition to ſtale. He ſwelled univerſally, and his Head to ſuch a degree that both his Eyes were ſhut up, and one of his Noſtrils, in the thinneſt part of it, was two or three inches thick. He was cured of this ſymptom by ſtimulating ſharp diureticks and emollients, and remains ſtill to do his duty after ſeveral years.

Of the Strangury.

I Shall only mention this diſtemper here for order's ſake, having already taken notice of it in treating of the gripes; this being a ſymptom that generally attends Horſes collicks almoſt of all kinds, becauſe of the nearneſs of the neck of the Bladder and the ſtreight Gut; for when the Guts are full of excrements, or inflated with wind, they are apt to preſs upon the Bladder and cauſe diſorders there. The cauſes of a Strangury.

EVERY ſtoppage of urine is generally called a ſtrangury, whether it proceed from the Kidneys or Bladder; but what I ſhall chiefly conſider in this place is when it ariſes from an inflammation of the bladder, a diſtemper Horſes are often ſubject to, or from ſome ſtoppage in the *Urethra* or Piſs-Pipe, as *Snape* calls it. Theſe Horſes make frequent motions to ſtale, without effect, they ſtand wide and ſtraddling, are full, having their Flanks diſtended, often lie down and roll on their Backs, having perhaps pain in their Kidneys and Ureters from their being oppreſſed by the detention of urine, the Kidneys being at that time hindered and obſtructed in their uſual ſecretions. And when the Bladder, Kidneys, or any of the urinary paſſages are inflamed, a ſymptomatick fever generally attends, and ſometimes convulſive ſymptoms from extreme pain. The ſigns.

IN this caſe the cure is to be entered upon by bleeding, then let the following drench be given. The Cure.

Take Venice Turpentine, incorporated with the yolk of an Egg, one ounce; Sperma Ceti, half an ounce; let theſe be rubbed together, and mixed with ſix drams of Nitre or Sal Prunellæ, in powder, and half a pint of Sweet Oil, with a little white Wine.

LET this be given without delay, and if the Horſe does not get relief in two hours from this medicine, it may be repeated, and when adminiſtered two or three times, it will generally remove this ſymptom.

When the ſtoppage of urine proceeds from matter in the Bladder, derived from the Kidneys, which happens in ſome colds, or after ſome kind of fevers; the decoction recommended for ulcerations of the Kidneys, made with the Roots of Marſh-Mallows, Sal Prunellæ, Gum Arabick, *&c.* may be adminiſtered with good ſucceſs; for I never obſerved any ſtoppages that were unſurmountable, either in the Neck of the Bladder or Urethra in Horſes, as is uſual in men, from gritty matter, ſtones, or ulcers. Theſe are ſo rare, that among the great numbers I have been concerned with, I can remember only one inſtance of a ſchirrous and ſinuous ulcer, or rather cancerous, in the *Urethra* of a Horſe, that ſpread itſelf through a conſiderable part of the cavernous body of the yard, which will be taken notice of under the Head of Ulcers. This continued ſeveral years, but was never cured, neither could it admit of a cure from the time I was made acquainted with it.

Of ſtaling Blood.

Horses are ſeldom ſubject to ſtale Blood, unleſs when they have received ſome ſtrain in their Kidneys, or when ſome Blood-veſſel has been ruptured about the neck of the Bladder, or from ſome ſcorbutick eroſion, there or in the *Urethra*, whereby the Mouths of ſome of the ſmall Blood-veſſels are laid open and ſend forth a bloody Ichor; but when this happens, it is generally very ſmall in quantity, and often goes off without the help of medicines. Theſe accidents may alſo proceed from ſharp rugged ſtones in the Kidneys, Ureters, or about the neck of the Bladder, tho' I imagine from what I have hitherto obſerved in Horſes, they are not very frequent from this cauſe, but are for the moſt part the effects of very hard labour or other ill uſage.

In this malady the urine is bloody, and ſometimes clear Blood comes away juſt after ſtaling, and therefore in order to a cure, if the Horſe be fat and luſty, it will be proper to bleed plentifully, but if he be low in fleſh, more ſparingly, after which give the following ball.

Take Conſerve of Red Roſes and Lucatellus Balſam, of each ſix drams; Sperma Ceti, half an ounce; Sal Prunellæ and Iriſh Slate, of each two drams; Syrup of Corn Poppies, ſufficient to make it into a ball.

This

This generally cures any Horſe that ſtales Blood, while the diſorder is new, and when the Blood does not proceed from ſome inward ulcer; it may be repeated until the ſymptom goes off, that the Horſe ſtales freely, and without the appearance of Blood. If the bloodineſs of the urine proceed from an ulcer in the Kidneys, Neck of the Bladder or *Urethra*, which may be known by pain and ſtops in ſtaling, and by a purulent ſediment in the urine, it muſt be treated as before directed, and if obſtinate, with mercurials and ſuch other medicines as ſweeten and attenuate the Blood; of which ſeveral preſcriptions have been given in the cure of the Farcy, Obſtinate Surfeits, and other chronical diſtempers.

The caſe of a Horſe that ſtaled Blood.

The moſt remarkable caſe I ever met with of this kind, was of a troop Horſe, that happened to be overſtrained in riding a ſmart party, and perhaps at a time when his bladder was full and wanting to ſtale. When he came home I found him much out of order, drooping, hanging his Head, and off his Stomach, and after ſtaling, voiding ſometimes about a gill, ſometimes about half a pint or more of freſh Blood, which I ſaw ſeveral times lie clotted on the pavement or among his litter. This Horſe was treated with rowelling, bleeding, and the uſe of the laſt mentioned preſcription, which ſoon relieved him, and was repeated till all the ſymptoms were removed. After which ſome mild purges were exhibited, whereby he was enabled to do his duty as uſual. But after two years, upon ſome other hard party, the ſame ſymptoms returned, but not ſo violent, and were ſoon cured with the uſe of the ſame things.

Of a Diabetes, or Profuſe Staling.

A *Diabetes* defined.

A *Diabetes* is a frequent and profuſe ſtaling, attended with great weakneſs, loſs of Fleſh, and often with an atrophy and decay.

The cauſes of profuſe ſtaling.

Some Horſes are addicted to ſtale more copiouſly than others; and this may proceed from various cauſes. Sometimes it is the effect of a natural delicay and tenderneſs in young Horſes when they are firſt backed, eſpecially thoſe that want courage will often ſtale thro' fear, which in time grows into a habit, and becomes difficult to cure. Others fall into profuſe piſſing from high feeding, eſpecially upon a looſe open diet, drinking too much at a time, and hard riding when their Stomachs are full of water, which brings a load upon their Kidneys, cauſing too plentiful a ſeparation of urine, which ſometimes alſo ends in a habitual piſſing. But a *Diabetes* is generally the reſult of long continued ſickneſs, old ſurfeits, or the effect of

hard riding, hard labour, with low feeding, by which the ſeroſities of the Blood become too much attenuated, and the Horſe by continual piſſing is always craving after water. And when this happens to a Horſe of a weakly conſtitution, it becomes very difficult to remove it. He ſoon loſes both his fleſh and appetite, grows feeble, his hair ſtares and his Bones ſtick out; his Eyes look weak and watry; and when it is of a long ſtanding, he grows unfit for all kind of buſineſs. I have ſeen ſeveral Horſes with this malady, but they are often incurable, unleſs in the beginning, for if the piſſing in a true *Diabetes* is not ſoon conquered, it uſually ends in rotteneſs.

The cure. THE cure of young Horſes that are addicted to piſs from fearfulneſs, depends very much upon gentle uſage; for fear is ſo ſtrong an affection in a Horſe, that where it prevails, is ſeldom overcome by any other means; and if this continues the piſſing will increaſe, and ſcarce any remedy will be able to prevent its return. If the Horſe be of a tender weakly conſtitution, he ſhould neither be indulged in too much water, nor too much moiſt diet of any kind, eſpecially ſcalded bran and other hot maſhes, which relax the Kidneys; but ſhould rather be kept conſtantly to dry food, unleſs ſome other diſorder ſhould require the Horſe to be kept open: His water ſhould be ſmall in quantity and often, his exerciſe gentle and unconſtrained, till he become more ſettled, and grow more familiar, and then the frequent piſſing will probably leave him. When the ſtaling proceeds from any ſudden ill uſage, as too much water and hard riding after it, ſo as to weaken the tone of the Kidneſs by throwing too great a load upon them, it may for the moſt part be cured by a contrary treatment; and if the Horſe be luſty, with high feeding and pampering, it will be proper to bleed and give a ſlender dry diet, and to ride him gently after his water; rowelling and purging may alſo help in ſuch caſes.

BUT if a Horſe has a true *Diabetes*, loſes his appetite and ſtrength, piſſes often and in great quantities; if he has had a ſurfeit or any other lingring ſickneſs previous to the other, he ought to be treated with reſtringents, and with a proper mixture of balſamick and aglutinant medicines, to heal and ſtrengthen the Kidneys, ſuch as the following.

Take Conſerve of Red Roſes, two ounces; Lucatellus Balſam, one ounce; Sperma Ceti and Japan earth or Bole in fine powder, two drams; Diaſcordium, half an ounce; make into two balls, with a ſufficient

ſufficient quantity of Starch, and roll them in Liquorice Powder or Flower.

Let one of theſe be given in the morning, and the other between the Horſe's feeds in the afternoon, and after each about four hornfuls of the following decoction.

Take Jeſuits Bark, bruiſed, four ounces; the Roots of Biſtort and Tormentil, of each two ounces; Gum Arabick, three ounces; Red Roſes, dried, one ounce; boil in two gallons of Lime-Water, to the conſumption of one half, pour off the decoction, and while it is warm diſſolve in it an ounce of Diaſcordium.

These things may be continued ſeveral days; and if the Horſe begins to recover his appetite, and his piſſing abates, it will then be proper to renew the ſame things, and repeat them for ſome time; theſe ingredients may be boiled over again in the ſame quantity of Lime-Water, adding freſh Roſes; for the Bark will require twice boiling before its virtue can be drawn out. The Gum Arabick may alſo be renewed, and if the Horſe be of value, a pint of red Wine may be added to the decoction, when it is cleared off. But to a Horſe of ſmall value, a cheaper draught may be made, as this, *viz.*

Take Pomegranate Bark, four ounces; Bauluſbines, two ounces; Red Roſes, one ounce; Biſtort and Tormentil Roots, of each three ounces; boil as the other in Lime-Water, and give three or four hornfuls after each ball.

If the diſtemper be but of a ſhort ſtanding, it may perhaps be ſufficient to allow him every day two quarts of Lime-Water mixed with Bole or Chalk.

His food ſhould be dry and nouriſhing, *viz.* the cleaneſt oats and the fineſt hay that can be got. A few beans or wheat may be now and then mixed with his oats, if his Stomach can digeſt them, and theſe may be ſprinkled with a ſolution of Gum Arabick, *viz.* about two ounces diſſolved in two quarts of Lime-Water warmed. The raſpings of white bread may be boiled in all his water, which is both very nouriſhing and healing, and may have ſome effect to dry up the ſuperfluous moiſture of his Kidneys. Air and exerciſe is alſo neceſſary, but that ſhould be very

moderate until the Horſe recover ſome degree of ſtrength, after which his exerciſe may be increaſed at diſcretion.

CHAP. IX.

Of Surfeits, and other Diſeaſes that affect the Blood and external Parts.

BY a ſurfeit is generally underſtood a plenitude, weight and fulneſs of the Stomach, accompanied with ſickneſs, loſs of appetite, inactivity, and great heavineſs, *&c.* and ſometimes a fever, as its concomitant; ſo that in the human body ſurfeits are often the beginning of fevers and other diſeaſes, but in Horſes what the generality call ſurfeits, are uſually the effects of ſome diſeaſe not attended to or ill cured. For tho' indeed a ſurfeit may often begin with ſome acute ſickneſs, yet it is ſeldom taken notice of as ſuch till it is attended with ſeveral marks and tokens that are viſible to the Eye, that ſpoil a Horſe's complection and looks.

The ſurfeits of Horſes deſcribed.

A Horſe is ſaid to be ſurfeited when his coat ſtares and looks ruſty, when he appears dirty, even tho' no care or pains has been wanting to keep him clean. Surfeited Horſes often have their ſkins ſo full of ſcales and dander, that it lies thick and mealy among the hair, and is conſtantly ſupplied with a freſh ſucceſſion of the ſame kind of groſs matter, from the want of due tranſpiration, and ſo continues till the ſurfeit is cured. Some ſurfeited Horſes have many ſmall hurdles of various ſizes, like peas or tares, which often diſappear when they are brought out of a warm ſtable into the air. Some have little dry fixed ſcabs all over their bodies and limbs, which often prove very obſtinate and hard to cure; others are moiſt, and attended with ſuch heat and inflammation, and the humor ſo ſharp and violently itching, that theſe Horſes rub ſo inceſſantly as to make themſelves raw in ſeveral places, eſpecially about the Neck, Rump and Hips, and ſometimes their Limbs do not eſcape; and if it affect their Eyes it may endanger blindneſs. Some have no eruptions at all, but only an unwholeſome look, and are dull, ſluggiſh, and lazy. Some appear only lean and hide-bound, with other ſymptoms of a diſordered Blood, others have flying pains and lameneſs, reſembling a rheumatiſm; ſo that in Horſes ſurfeits, we have almoſt all the different ſpecies of the ſcurvy and other chronical diſtempers.

THE

The Causes of Surfeits in Horſes.

THE cauſes of Surfeits are various; Horſes often grow ſurfeited with high feeding, and want of due exerciſe, which induces a bad digeſtion, and breeds ill humours. Sometimes Horſes become ſurfeited with unwholſome food, when it is either rank, or bad of its kind, as too much clover, rye-graſs, muſty hay, and corn, and ſuch like; for ſome foul feeding Horſes will eat muſty ſtinking provender greedily, and fill themſelves full of ill humours, which by degrees, will bring on many of the ſymptoms obſervable in Surfeits. Sometimes Surfeits are cauſed by hard riding, eſpecially thoſe Horſes that are extremely fat, and have not before had regular exerciſe to harden them, ſometimes by drinking cold water, when hot, ſtanding in a cold air, or being expoſed to the night air, after a Horſe has been kept in a warm ſtable; or after a Horſe's Blood has been much heated and agitated with hard riding, or any other violent labour. Theſe indeed often produce firſt of all, pleuretick diſorders, and inward inflammations, which prove ſuddenly mortal, but if they eſcape death, unleſs great care be taken of their recovery, ſuch Horſes will generally have the ſigns and appearances of a Surfeit, eſpecially that kind which is attended with ſluggiſhneſs and inactivity, and where the Coat looks ruſty and unwholſome. And indeed many of the diſorders that go under the name of Surfeits are owing to ill cures. But laſtly, Surfeits are often cauſed by bad or ill prepared phyſick; and I have ſeen ſome Horſes after taking mercurial purges break out all over their Bodies, and become quite naked of Hair in many places, with all the uſual effects of a ſlow poiſon.

Surfeits often cauſed by imperfect Cures and by bad and ill prepared Medicines

SURFEITS of all kinds are obſtinate, and hard to cure when they have been neglected, and ſuffered to go on a long while without any attempt made to remove them; but when a Surfeit has been but of a ſhort ſtanding, and the Horſe in other reſpects healthful, it is often cured without much difficulty. Thoſe Surfeits are ſtubborn and dangerous, where a Horſe looks with a ruſty Coat, and at the ſame time is hidebound, and ſoon tires, for theſe ſymptoms often betoken an inward decay; if a Horſe that has been long ſurfeited falls off his ſtomach, if he coughs often, is thick winded, blows and heaves when he is put to exerciſe, theſe are bad ſigns, and are often incurable. That kind of Surfeit that appears in little dry ſcabs, that peel off with the Finger, is often obſtinate, and greatly diſfigures a Horſe while it continues, but thoſe eruptions that are hot and itching, that fret off the Hair, attended with a hot ſcalding humour, are not ſo difficult to cure, except where they return habitually ſpring and fall, in which caſe ſuch Surfeits prove obſtinate, and grow more ſo with age.

Surfeits hard to cure when they have been of an old ſtanding.

Surfeits that betoken an inward Decay.

IT

It may be neceſſary here to obſerve, that ſome Horſes, eſpecially of the ſtrong breed for draught, and alſo many of our half bred Horſes, have ſomewhat of a ſurfeited look in winter. But this is only owing to the length and coarſeneſs of their Hair; others that are extremely thin ſkin'd, have a ſhort woolly down, or kind of winter Coat, which lyes underneath the Hair, and gives them a dirty, ſurfeited look, tho' they are at the ſame time in perfect health, and fit for buſineſs. Thoſe who are not thoroughly acquainted with ſuch things, look on theſe Horſes to be ſurfeited, and often bleed, give them purges, and other things to make them coat better, tho' without much ſucceſs; but as they are no leſs healthful than thoſe that carry a better Coat, ſo in the ſpring of the year, they look as fine and ſmooth as any other, and continue ſo all the ſummer. Theſe Horſes therefore that look well in ſummer, and only look rough in cold weather, with a downy Coat, ought not to be treated as ſurfeited Horſes, nor ſtand in need of much phyſick, for as nature has provided them with warm cloathing for the winter, the beſt way is not to curry them too much, as other Horſes that have ſmooth ſhort Hair, for the ſharp teeth and cloſeneſs of the curry comb, fetches off the Down in ſuch quantity, and leaves their Skins ſo much expoſed to the air, that they are apt to catch violent colds. I have known ſeveral inſtances, where colds that come in this manner, have been obſtinate and of long continuance; and therefore the beſt way is not to be over curious with ſuch Horſes, nor look upon them as ſurfeited, but to give them good rubbing and bruſhing inſtead of currying, and if the curry comb be at all uſed, to take care that it be an old one that has its teeth blunted and worn, that it may not bring the Hair off too faſt. Cloathing with a ſingle cloth will alſo be ſome help to their looks, and make them ſhed their Coats the ſooner, and may preſerve them from catching cold, but cloathing is chiefly neceſſary to Horſes that are thin ſkin'd, and have very ſoft Hair.

A neceſſary Caution with reſpect to Surfeits.

In the cure of Surfeits, I ſhall keep to the common names by which they are uſually known, and ſhall include under the ſame diviſion, the Mange, Farcy, and other diſtempers that affect the Skin.

Of a Dry Surfeit.

A Dry Surfeit deſcrib'd.

This properly includes all thoſe maladies that disfigure the looks of a Horſe, either thoſe where there are no eruptions on the Skin, or where the eruptions are dry and without moiſture, but continue fixed upon the Skin.

Skin. For where the eruptions riſe ſuddenly in little lumps of different ſizes, and as ſuddenly diſappear, tho' theſe may indeed be reckoned one ſpecies of a Surfeit, yet it is never accounted ſo in the language of Horſemen, as theſe eruptions happen to Horſes of ſound Vitals, and frequently wear off with bleeding, and a cool opening diet; but when the texture of the Skin is vitiated, and the Blood contaminated, and Perſpiration is obſtructed, a Horſe's looks becomes ſo much disfigured, and the caſe often ſo obſtinate, that every one concludes ſuch a Horſe to be ſurfeited.

If a Horſe notwithſtanding theſe ſymptoms feeds, and does not abate in ſtrength, but goes through his buſineſs well, he may be cured by the following method. Firſt take about three pints of Blood, after this let him have the following mild purge, which will work as an alterative.

The Cure.

Take Succotrine Aloes, one ounce; Gum Guiacum in Powder, half an ounce; Diaphoretick Antimony, and Powder of Myrrh, of each two drams; make into a Ball with Syrup of Buckthorn, and roll it in Liquorice Powder or Flower.

One of theſe may be adminiſter'd for ſome time, once a week or once in ten days. In the intermediate days, or the intervals between the purges, two ounces of the following powders may be given every day, one ounce in the morning, and another in the evening feed.

Take Cinabar of Antimony, or Native Cinabar made into very fine Powder, half a pound; Crude Antimony in fine Powder, four ounces; Gum Guiacum alſo in Powder, four ounces; make theſe into ſixteen Doſes for eight days.

For Horſes of ſmall value.

The ſame quantity may be made and repeated till the Horſe comes to coat well, and all the ſymptoms of the Surfeit diſappear. If the Horſe be of ſmall value, two or three common purges may be given of the milder ſort, and inſtead of the Cinabar powders, common Antimony and Sulphur, may be mixed twice a day, in the ſame quantity. It will alſo be proper to quench hot Iron in his water, for in moſt dry Surfeits, Horſes require thoſe things that are proper to warm and invigorate the Blood. If the little ſcabs that lye on the Skin do not peel off, the following ointment may be made uſe of, *viz.*

Take

Take Quickſilver, half an ounce; rub it with two drams, or half an ounce of Turpentine, till the Quickſilver is intirely kill'd and diſappears, then add by degrees a pound of Hog's Lard, rubbing in a Mortar with a Peſtle till the whole is incorporated.

THIS ointment is to be apply'd where the eruptions are fixed. It will be convenient to keep the Horſe dry, and give him warm water for a week or ten days, during the time of unction, which may be once in three days, or oftener if it dry in faſt. I have known this ointment alone cure theſe kind of Surfeits, with the help of purging phyſick afterwards.

Of a Wet Surfeit.

A Wet Surfeit deſcrib'd.

A Wet Surfeit is no other than a moiſt running Scurvy, and appears on different parts of the Body of a Horſe, eſpecially about the Neck, Rump, and Hips, ſometimes attended with great heat and inflammation; oftentimes the Neck ſwells in one night's time, in ſome the Withers, and from thence will iſſue forth great quantities of a hot briny humour, and if care is not taken to allay it, will be apt to make a collection on the Poll or Withers, and produce the poll-evil or fiſtula. When the humour appears more univerſally on various parts of the Body, it frequently at the ſame time attacks the Limbs, and when it makes a ſettlement there, proves obſtinate and hard to cure, as all ſharp humours are when they fall upon the dependent parts; for by length of time they not only affect the Skin but the Tendons, ſo as to require a continued courſe, both of outward and inward applications. In ſome conſtitutions of Horſes, theſe kind of eruptions leave a ſort of contagion, that ſhews itſelf every ſpring and fall, with little or no moiſture, but a peeling off the Hair from the Neck, Face, and other parts of the Body, but chiefly in the ſpring, about the time of ſhedding their winter Coats. But when this happens, it is generally the effect of ſome neglect or miſmanagement, and I have known it to proceed from mercurial phyſick ill prepared, or injudiciouſly adminiſter'd.

The uſual Method of treating a moiſt inflam'd Surfeit dangerous

WHEN a hot briny humour breaks out on a Horſe's Neck, Withers, or any where elſe, the part commonly ſwells, is hot and inflam'd, and attended with a violent itching. The common method of curing ſuch things is for the moſt part hurtful, as our practitioners ſeldom do more than bleed, and then uſe repellers, as vitriolick and aluminous waters. But the only ſafe way

way of curing theſe eruptions is by bleeding and purging, and the uſe of coolers inwardly, with a cool open diet. For a Purge,

Take Succotrine Aloes, one ounce; Cremor Tartari, and Sal Prunellæ, of each half an ounce; freſh Jallap in powder, one dram, make into a Ball, with a ſufficient quantity of Syrup of Marſhmallows, and about forty drops of Oil of Amber, and give it after the Horſe's Body has been opened with ſcalded Bran. Purging proper in the cure of Surfeit.

Those who chuſe a purging draught, may give the following, which in moſt caſes is preferable to any other, eſpecially where the heat and inflammation is great.

Take Lenitive Electuary, and Cream of Tartar, of each four ounces; of the Pulvis Sanctus, half an ounce; mix theſe in a quart of warm gruel, and give it faſting in the morning.

This liquid Purge will probably work about twelve hours after it is given, whereas the other ſeldom works in leſs than twenty-four hours, except when a Horſe's Bowels are foul, in which caſe, any purge will ſometimes go off ſooner. Either of theſe purges may be repeated three times, or oftener, if they work mildly.

After the purges, let the Horſe have Antimony and Sulphur, of each equal parts, about a ſpoonful a day in one of his feeds; or if the Horſe be of value, Cinabar of Antimony, and Gum Guiacum in powder, may be adminiſter'd in the ſame manner, which will yet prove more efficacious, as theſe things are very friendly to the Blood, and particularly to ſurfeited Horſes.

The Horſes that become ſurfeited after taking unwholſome drugs, or mercurial phyſick, require a great deal of care in order to their recovery, which ought to be gone about as ſoon as poſſible, otherwiſe all endeavours may afterwards prove fruitleſs, when the cure is neglected, or when improper medicines are adminiſter'd; the ſores and blotches occaſion'd by the poiſon turn leprous, and ſometimes will thicken and furrow the Skin, ſo as to cauſe great deformity, with deep chops, from which iſſue forth Blood, or bloody Water. Yet nature is ſometimes ſo beneficent to ſuch Horſes where their conſtitutions happen to be good, that they often recover with good management, after all theſe untowardly effects. But when the ſmall Veſſels of the Lungs, the Liver, or any of the principal *Viſcera* happen to The Method of managing the Cure of ſurfeited Horſes after bad Medicines

be hurt, they generally prove incurable; and therefore if a Horſe in this condition coughs much, feeds poorly, falls off his fleſh, and grows hide-bound; unleſs theſe ſymptoms be ſoon removed with ſoft balſamick medicines, ſuch as have already been preſcribed for colds and diſorders of the Breaſt, with the intermixture of very mild purges, it will be in vain to attempt a cure, becauſe we may, in that caſe, reaſonably ſuppoſe his Lungs to be very much hurt and broke. If he looks dull and heavy, his Eyes and Lips, and the Roof of his Mouth yellow; if he is ſhort-breathed, ſeems to be full and ſomewhat pot-bellyed, with a ſhort cough upon the leaſt exerciſe; theſe are all tokens of inward diſorder, and, for the moſt part, denote the Liver to be affected; and when they proceed from Mercury ill-prepared, or from catching cold in the uſe of ſuch things, it will hardly be worth while to endeavour a cure. But if the Horſe feeds well, if he ſhews himſelf ſprightly and vigorous, notwithſtanding any outward foulneſs and deformity; if he does not flag in his buſineſs, there is great Hopes of his recovery, which may be attained by the following method if it is ſtrictly obſerved.

And firſt of all, if the Horſe is in fleſh, and otherwiſe in good plight, bleed, give him two or three mild purges, ſuch as have been already preſcribed, or the following, which is more particularly adapted to a poiſoned Blood, and will work partly as a purge, and partly as an alterative.

Take the fineſt Succotrine Aloes, ten drams; Gum Guiacum, half an ounce; Diaphoretick Antimony and Cream of Tartar, of each two drams. Make into a ſtiff ball, with a ſufficient quantity of Syrup of Roſes, then add two drams of Oil of Amber, and roll it in Liquorice Powder.

This purge may be repeated two or three times, once in five or ſix days, unleſs it ſhould happen to purge violently, which ſometimes falls out when a Horſe's bowels are foul; in that caſe a little more time is to be allowed. In the intermediate days, *viz.* the days between the purges, let the Horſe have a draught of the following decoction.

Take of the ſhavings or raſpings of Guiacum, two pounds; Turmerick bruiſed in a mortar or cut in thin ſlices, four ounces; freſh Dork Root wiped clean and cut into thin ſlices, one large handful; Chamomile Flowers, half a handful; Liquorice Root ſliced, four ounces; Crude Antimony groſly powdered, and put into a bag, one pound.

Let

Let theſe be boiled for the ſpace of half an hour or longer, in three gallons of ſpring water, and keep the decoction upon the ingredients in a clean earthen pan for uſe.

This is both a cheap and a very efficacious medicine, in all caſes where the foulneſs of the Skin is owing to bad or ill-prepared medicines, eſpecially of the mercurial kind, and may be given to any Horſe, almoſt at diſcretion, eſpecially about four hornfuls in the morning faſting, and the ſame quantity about two hours before he has ſupped, or at night. It will ſweeten the Juices and render the Blood more ſoft and balſamick; but requires to be continued two or three months in obſtinate caſes, allowing ſometimes a week's interval, that the Horſe may not be cloy'd with continual drenching. It will be little or no charge to the owner, and there is alſo this advantage in the uſe of theſe things, that they will be no hindrance of his exerciſe, or any buſineſs the owner requires of him.

The ſhavings or raſpings of Guiacum, may be had at the druggiſt's or the working wood-turner's; the Antimony ſhould not be ſuch as is generally ſold in the ſhops, *viz.* that ſort which is melted down, and caſt in a pyramidical form, and is often full of droſs, the genuine being clear and ſhining, of the colour of poliſhed ſteel, and will anſwer the end more effecly than the other.

Some Horſes are very ſhy, and take their drinks with great reluctancy, which is inconvenient where it is neceſſary to repeat them often. When this is the caſe, the Crude Antimony or Liver of Antimony in their feeds may do good ſervice; but it will be ſtill more efficacious in all ſurfeits, if Gum Guiacum be mixed with the Antimony, as I have found from experience, in the following manner, *viz.*

Take of the beſt Antimony made into a very fine powder, and Gum Guiacum in powder, of each a pound; mix them well together in a large mortar, oiling the end of the peſtle to prevent the gum from caking; then divide the whole into thirty-two doſes, *viz.* an ounce in each doſe, and let one be given every day in the evening-feed.

This will tend greatly to rectify a ſurfeited Horſe's Blood and Juices, will open his hide, make him coat well, and give him a wholſome look, and very much help to remove the ill effects of mercurial medicines; but if the Horſe be of value, the Cinabar of Antimony may be uſed inſtead of the Crude Antimony; and though it may be ſomewhat more chargeable

than the other, yet I have often obſerved it to be of more quick efficacy, which in a great meaſure, makes amends for the expence, *viz.* Cinabar of Antimony and Gum Guiacum, mixed as above, and adminiſtered in the ſame manner; or recourſe may be had to the compounded powders above preſcribed made of Cinabar of Antimony, with the Crude Antimony or Liver of Antimony, &c. all which things being efficacious in the moſt kinds of ſurfeits, eſpecially thoſe that proceed from unwholſome diet, unwholſome drugs, or from ill-prepared medicines, given in the farcy, are alſo proper in obſtinate ſurfeits; but in the cure of ſurfeits, regard muſt always be had to the original diſtemper, from whence it has taken its riſe, according to the directions already laid down; but if the ſymptoms of a ſurfeit proceed from any hereditary cauſe, it will be difficult to remove them, ſo as to have no return.

In the cure of ſurfeits, a great deal may be done by proper diet and exerciſe; if the Horſe be ſtrong and vigorous, and feeds well, he may have all his accuſtomed exerciſe, but if he be a poor feeder, and apt to turn faint and dead-hearted, his exerciſe muſt be gentle. The ſame rule may be obſerved if he coughs much, and is any ways defective in his wind; nevertheleſs theſe Horſes ought to be often in the open air, and have their exerciſe proportioned to their ability, for nothing ſo much ſtrengthens and invigorates the blood as the air and exerciſe, which will alſo help the operation of their medicines, and render them more effectual. Their diet ſhould be cool and opening, while there remains any foulneſs of the Skin, ſuch as ſcalded bran, but eſpecially ſcalded barley, once a day, and if the Horſe be hidebound, I would adviſe an ounce of Fængreek Seeds to be given daily in one of his feeds, to be continued the ſpace of one month longer, if it be neceſſary. But I ſhall here take ſome notice of what is meant by the binding and cloſeneſs of the hide.

A proper diet for ſurfeited Horſes.

Of Hidebound Horſes.

Hidebound Horſes deſcribed, with the uſual cauſes that produce that malady.

A HORSE is ſaid to be hidebound, when his Skin ſticks ſo cloſe to his ribs, that it ſeems immoveable; but this is not to be accounted an original diſeaſe, but only a ſymptom, which may either be cauſed by want of ſufficient food, or from harraſſing Horſes beyond their ſtrength, without allowing them ſufficient time for reſt, and neceſſary refreſhments. Sometimes Horſes grow hidebound very ſuddenly from fevers, and convulſive diſorders, and if that ſymptom is not ſuddenly removed, the diſtempers that are the cauſe of it generally prove mortal; but nothing is

more common than to ſee ſurfeited Horſes alſo hidebound; and therefore in the cure of all hidebound Horſes regard muſt be had to the original diſtemper from whence it proceeds. I have obſerved in fevers and convulſive diſorders, where there was great pain, Horſes become hidebound, and ſtrangely tucked up in a few hours, and that ſymptom as ſuddenly removed by care, and proper applications; but when a Horſe is full of fleſh, and has no viſible appearance of ſickneſs, and appears at the ſame time to be hidebound, it is often the effect of ſome long continued inward diſorder, which ought to be examined into, whether it be in the Liver, Kidneys, or Lungs; but eſpecially if it proceeds from vermin in the Guts: for thoſe who have had experience may have often obſerved this ſymptom, when they have been carefully purged, and have thereby diſcharged great quantities of the ſmall white worms called *Aſcarides*; therefore, in all theſe caſes, whatever ſtrikes at the cauſe, effectually removes that ſymptom. And though a Horſe feeds well, keeps his fleſh, and goes through his buſineſs, and yet continues hidebound, nevertheleſs he ought to be regarded, otherwiſe this ill habit of body will at length be able to produce ſome untowardly ſymptoms, which in the end may prove fatal. In this caſe I would adviſe purging in the following manner, *viz.* give over night two drams of Calomel, made into a ball with Conſerve of Roſes, and the next morning the following purge, *viz.*

The manner how hidebound Horſes are to be treated.

Take Succotrine Aloes, an ounce, or ten drams, if the Horſe be ſtrong; freſh Jallap in fine powder, two drams; Myrrh, half an ounce; make it into a ball, with Syrup of Buckthorn, adding ſixty drops of Oil of Savin.

This purge and the mercurial ball, may be repeated three times in three weeks, and afterwards the Cinabar or Antimonial Powders, as above preſcribed, which will be the likelieſt way to recover any ſuch Horſe from the dangers that threaten him; and if worms be the cauſe, this method will ſoon relieve him.

Horses that become hidebound by ſtarving or hard uſage, need only reſt, and better keeping. The feeding in ſuch caſes ought to be gradual, that is, increaſed by degrees, according to the rules laid down in the method of dieting, and elſewhere.

Of Molten Greaſe.

MOST of the writers in farriery, have reckoned the melting of the greaſe as an original diſtemper in Horſes, though few of them have offered any definition of it, or the ſymptoms that appear in it, but have, for the moſt part, only given ſome inſignificant receipts for the cure of it. They have indeed aſſigned one general cauſe for molten greaſe, *viz.* hard riding, or any other violent exerciſe, but have laid down no other ſymptom, but ſwelling of their Limbs, or greaſy dung; which however will happen to Horſes from foul feeding, and to ſome from the natural conſtitution of their Blood and Juices, where no violence has been uſed. That there is ſuch a thing as melting of the greaſe, is pretty evident from what may be obſerved of ſome exceſſive fat Horſes, that have been worked in hot weather, and have died raging mad of fevers, in which caſe the fat is melted and turned into an oil, and is drawn off from its proper cells into the Blood-veſſels, of which I have elſewhere given a very extraordinary inſtance. But as this is ſeldom underſtood for molten greaſe, but paſſes under the denomination of a fever or the ſtaggers, which often proves mortal, eſpecially in the hands of ignorant perſons; I ſhall therefore proceed to thoſe caſes which are uſually aſcribed to molten greaſe, which, when neglected, often produce many of the ſymptoms that paſs under the name of ſurfeits.

Fat Horſes liable to have their Greaſe melted.

WHEN a Horſe voids greaſy matter along with his dung, his Greaſe is ſaid to be melted; but it may be obſerved, that this ſymptom proceeds from various cauſes; ſometimes very fat Horſes, that ſtand much in the ſtable, and have but little exerciſe, will void greaſy matter along with their dung upon catching the leaſt cold; but this is only a natural ſecretion, and is not attended with thoſe inward perturbations that muſt unavoidably happen where the Greaſe is really diſſolved and melted. Some Horſes of hot conſtitutions, that are inclined to coſtiveneſs, ſometimes grow over-charged, and void great quantities of ſlimy matter, like corruption, and the balls of dung are covered with a pellicle or ſkin and when this happens, ſuch Horſes are ſaid to have their Greaſe melted, though very improperly, this being no other than a common ſymptom that always attends a retention of the dung; and when they void a matter of the colour of Sulphur, it is a ſure ſymptom of worms. There are other Horſes of weak Bowels, that often void a looſe ſlimy dung, and ſome are apt to conclude theſe have had their Greaſe meled, but this is only the effect of a ſizy Blood; but the ſwelling

The uſual notions concerning molten Greaſe.

ſwelling of the limbs and the running at the heels, ſometimes a briny ſalt humor, ſomewhat of an oily conſiſtence, or a thick white matter like melted tallow, called the greaſe, has no relation at all to that diſtemper, but when there is ſome manifeſt tokens that the Horſe's greaſe has been previouſly melted by ſome hard uſage; for we often ſee lean Horſes of poor ſizy blood, as much troubled with theſe ſymptoms, as any other. But this will be treated of more fully, when I come to diſcourſe of ſwelled Legs and greaſy Heels.

Now the true ſymptoms of molten greaſe may be diſcovered by the following obſervations; and in the firſt place, no Horſe can eaſily have his greaſe melted, unleſs he be ſomewhat overcharged with fat; neither can a fat Horſe have his greaſe melted in any degree, without violence, eſpecially by hard riding or working in very hot weather; for the oilineſs that we often obſerve in the dung of very fat Horſes, eſpecially if a ball of his dung be thrown into cold water, proceeds only from a ſuperabundance of oily particles in his Blood, which are more or leſs diſcharged by all the groſſer ſecretions. But when a Horſe's greaſe is really melted, it is always accompanied with a fever, with heat, reſtleſsneſs, ſtarting tremors or trem- blings, great inward ſickneſs, ſhortneſs of breath, and ſometimes with the ſymptoms of a pleuriſy; and theſe ſymptoms are more or leſs aggravated according to the previous ſtate of the Horſe, or the degree of violence in the treatment he has met with. His dung will then be extremely greaſy, and will fall into a ſcouring, not unlike the greaſy Diarrhœas that happen to men in ſomewhat of the like circumſtances. His Blood will have a thick ſkin of fat over it, when cold, of a white or yellow hue, but chiefly the latter, from the obſtructions that uſually happen in the Liver in ſuch caſes. The congealed part or ſediment is commonly a mixture of ſize and greaſe, which makes it ſo exceeding ſlippery that ſcarce any part of it will adhere to ones fingers, and the ſmall portion of ſerum that is in it, feels alſo ſlippery and clammy, not unlike the juice of apples. The Horſe ſoon loſes his fleſh, the fat that fills the Interſtices of the Muſcles being probably diſ- ſolved and ſucked up into the Blood-veſſels, and thoſe Horſes that ſurvive ſuch a ſhock commonly grow hide-bound for a time, and their Legs ſwell both before and behind, and continne ſo till the ſtate of their Blood is altered and mended by proper applications. And if this is not done ef- fectually, the farcy, the glanders, or ſome obſtinate ſurfeit generally follows, that will be difficult and hard to cure. To avoid theſe unhappy effects of molten greaſe, I ſhould adviſe the following method.

The true ſigns of molten greaſe.

The cure of molten greaſe.

In the firſt place it is neceſſary to bleed plentifully to empty the Blood-veſſels, which are generally crammed, and in the ſmall Capillary Veins almoſt to a total ſtagnation. This ought to be repeated two or three days ſucceſſively, and here plenty of rowels or iſſues are of great uſe, one in the Breaſt, one in the Belly, as ſoon as the agitation and working of the Flanks begins to abate, and one on the inſide of each Thigh. As to internals, glyſters are of great ſervice, which ought to be rather of the emollient kind, than purgative, rather to cool the inteſtines than to cauſe heat and irritation; and all the other internals ought to be cleanſing, attenuating, and opening. For a glyſter,

Take Mallows and Marſh-Mallows, of each a handful; Chamomile-Flowers, half a handful; Sweet Fennel Seeds and Cumin Seeds, bruiſed, of each two ounces; Bay Berries, bruiſed, an ounce; boil theſe in three quarts of Water, to two quarts, in a covered veſſel; and when it is of a proper warmth pour off the decoction, and diſſolve in it ſix ounces of Lenitive Electuary, and half a pint of Linſeed Oil, and give it blood-warm.

Emollient glyſters abſolutely neceſſary.

This glyſter, or glyſters that are contri ed after this manner, are proper to Horſes that have their greaſe melted. They will help to abate the fever, and drain off from the inteſtines great quantities of greaſy matter, and by that means aſſiſt the operation of things given by the mouth, which ſhould be ſuch as attenuate and thin the Blood, and at the ſame time keep the Belly ſoluble and open. For this purpoſe,

Take Rue and Scordium, of each a handful; Bay berries bruiſed, and Chamomile-Flowers, of each an ounce; Saffron, two drams; infuſe in a quart of boiling Water, and when the infuſion has ſtood twelve hours pour it off, and diſſolve in it ſix ounces of Cream of Tartar, and add to the whole half a pint of white Wine, and give it milk-warm, at any time of the day, if the Horſe does not feed, but if the Horſe feeds, in the morning faſting.

This drink may be repeated every other day, and the glyſter every day, till the Horſe begins to look briſk, and feeds. At the ſame time let him have plenty of warm water or water-gruel to drink, to dilute and thin his Blood, and prevent coagulation; for the Blood in all ſuch caſes eaſily runs into greemes, and indangers a total ſtagnation.

When

When the fever is gone quite off, and the Horſe has recovered his appetite ſo as to feed plentifully, it will be proper to finiſh his cure with mild gentle purges of the aloetick kind, eſpecially if his Legs ſwell, which is uſual in ſuch caſes.

Take the fineſt Succotrine Aloes, one ounce; Diapente, ſix drams; Saffron, carefully dried and powdered, one dram; make it into a ſtiff paſte with Syrup of Buckthorn, adding a ſmall ſpoonful of Oil of Amber.

One of theſe purges may be given every week, and continued for a month or ſix weeks; which method will bring down the ſwelling of his Legs more effectually than by giving ſtrong purges, which often by their violence and harſh operation, break down the conſtitutions of the ſtrongeſt Horſes, and render them liable to many infirmities and diſorders. I have always found by experience, mild purges the moſt efficacious in moſt of the maladies where purging is neceſſary, and I have often met with great ſucceſs in adminiſtring thoſe that are no more than alteratives, where the purgative ingredient has ſeldom exceeded half an ounce or ſix drams of the fineſt Aloes, which only opens their bellies and makes their dung ſoft and looſe; but by entring more into the Blood, are more permanent in their effects. And whoever follows this method, may obſerve that at the ſame time the Horſe may perhaps purge but little, he will ſtale plentifully, he will alſo perſpire more freely, that his ſkin will have a kindly feeling; and I have found many Horſes that before were poor feeders, and would have probably gone to the dogs with ſtrong purges, recover their appetite with theſe, ſo as to feed heartily, and ſoon be able to go through any manner of fatigue. Theſe purges may be repeated at pleaſure, *viz.* one in eight or ten days, with this benefit alſo to the owner, that they will ſeldom take him off his buſineſs above two or three days in a week, neither will he loſe his fleſh or his appetite, but will mend in both, which cannot be ſo well obtained by any other method of purging. But having already mentioned the advantages elſewhere ariſing from this kind of treatment, I ſhould not have repeated any thing further here on that ſubject, only that I may venture to ſay, that no caſe requires it more than where there is a ſupicion of molten greaſe to carry off the dregs and recrements that may be left in the Blood by ſuch an extraordinary diſorder.

Purging neceſſary to bring down the ſwelling of the Limbs.

As to the other caſes abovementioned, that reſemble thoſe where the greaſe is melted, ſuch as proceed from high feeding and want of ſufficient

exerciſe, from colds and common fevers, from eating great quantities of green dried clover, new hay, or any other kind of diet that may cauſe obſtructions in the Guts; ſuch as have their Legs ſwell and break out into a running, ſome of theſe have been already treated of, and others will be handled in the progreſs of this work.

Of the Mange.

Miſtakes concerning the mange.

THE mange is ſo well known that it ſcarce needs a deſcription. Nevertheleſs the *French* and ſome other foreign writers on the diſeaſes of Horſes, and many of our own practitioners ſometimes miſtake hot itching eruptions for the mange, and by that means often fail in the cure, or at leaſt render it both very tedious and troubleſome.

The cauſes of the mange.

AT firſt the mange is ſeldom ſeated deeper than the ſurface of the ſkin, and may be eaſily cured before it has been of continuance long enough to vitiate and pollute the Blood. It generally comes by infection from other Horſes, and is ſo very catching, that a Horſe will ſcarce eſcape if he happens to be ſet up in a ſtable where a mangy Horſe has ſtood, before it has been well cleaned and aired. The mange alſo proceeds from ſtarving and low feeding, and happens often to Horſes that have run long abroad in pinching cold weather, without graſs or ſufficient provender to ſupport them. For when a Horſe once becomes poor, the blood and ſpirits do not flow in ſufficient quantity to the extremities of the ſkin, ſo as the neceſſary ſecretions may be made, by which means a ſtoppage of the inſenſible tranſpiration in ſome degree muſt alſo follow, the juices in thoſe parts growing ſharp and pungent, create a perpetual tingling and itching. And altho' this tingling and itching is always conſtant in the mange, yet it is not ſo violent and painful, as the ſmart and itching that attends ſome of the ſurfeits above deſcribed. Thoſe diſorders being not only ſeated deeper in the ſkin, but ſometimes ſpreading their influence below upon the membranes that cover the Muſcles, which render the pain and all other ſenſations more acute and violent.

Diſtinguiſhed from other itching eruptions.

A mangy Horſe deſcribed.

IN the mange the ſkin is generally tawned, thick and full of wrinkles, eſpecially about the Mane, the Loins, and Tail, and the little hair that remains in thoſe places almoſt always ſtands ſtreight out and briſtly. The Ears of a mangy Horſes are commonly almoſt naked and without any hair, and all about their Eyes and Eye-brows, which gives them a diſmal carrion-like look. And where it affects the limbs, it makes them in many places

places look quite naked, but yet without peeling and rawneſs, as in thoſe kind of ſurfeits where the Blood is very hot and inflam'd.

The mange ſeldom happens but to ordinary neglected Horſes, and if it be let alone without taking ſome care to free them of it, will at laſt induce an univerſal depravity of the Blood and Juices, and become tedious if not altogether incurable, but when taken in time nothing is more eaſy, eſpecially when it comes by infection, for that which proceeds from ſtarving is always more rooted, and conſequently more tedious, and a Horſe ſeldom recovers perfectly till he takes on a competent meaſure of fleſh.

The Cure. If the Horſe has been in good keeping, and catched the diſtemper of another Horſe, or in an infected ſtable, in that caſe it will be proper to begin with bleeding, and a gentle purge or two will not be amiſs. Let him have an ounce of Antimony and Sulphur, of each equal quantities, every day in a feed of ſcalded or moiſten'd Bran, to be continued three weeks or a month. Sometimes the mange is cured by outward applications alone, without any thing internally, only by ſteeping Tobacco in old Chamber-lye about twenty-four hours, bathing all the mangy parts with it every day till the Horſe is well, and when the diſtemper is not very inveterate, this is to be prefer'd to daubing ointments. Some cure it with Train Oil, and Gunpowder made into the conſiſtence of a ſoft liniment; others add to this Black Pepper, Spirit of Wine, and a ſmall quantity of Oil of Turpentine, to give it a body, and to make it adhere more cloſely to the Skin. Some uſe Gun-Powder and *Barbadoes* Tar made into an ointment, with a mixture of Black Soap. And I have known the country People cure the mange both in their Horſes and Dogs, with ſalt Beef Brine; all which things are often attended with ſucceſs in new infections; but if the diſtemper has taken deep footing, and the texture of the Skin become thereby very much corrupted, and broke ſo as to have a tendency to a Leproſy, it will be neceſſary to have recourſe to mercurials both externally and internally, and for that purpoſe,

Take of any of the common Horſe Balls above preſcrib'd for Colds, the quantity of a Walnut; Calomel finely prepared, two ſcruples; mix them together, and let it be repeated three mornings, keeping the Horſe faſting two hours before, and two hours after each Ball.

The Horſe muſt be kept warm, have warm water, and not ſuffered to go into the water, or to be wet on any part, nor go out of the ſtable if the weather be foul, unleſs into a dry riding houſe, or under ſome cover for his exerciſe. Give every day a feed of ſcalded Bran, and the morning after the

laſt ball let him have a common purge, or this, which is as proper as any in the mange, or in any other caſe where the Skin happens to be foul.

Take Aloes Succotrine, ten drams, or of common Aloes, an ounce; Diaphoretick Antimony, half an ounce; freſh Jallap in fine Powder, one dram; make it into a Ball with a ſufficient quantity of *Barbadoes* Tar, adding ſixty drops of chymical Oil of Aniſeeds.

This may be repeated two or three times, applying outwardly at the ſame time the Train-Oil and Gun-Powder, which in moſt caſes is both very proper and efficacious, the Gun-Powder being no other than a compoſition made chiefly of Sulphur, Salt-Petre, and Charcoal, and thoſe who diſlike the Train-Oil, may uſe Butter, or Hog's Lard inſtead of it, with a mixture of Spirit of Wine, which by rubbing it ſome time in a mortar, will be ſufficiently incorporated for an outward application. But if this ſhould not prove effectual, the mercurial ointment preſcrib'd in the preceding chapter may be uſed with the precautions there laid down, *viz.* keeping the Horſe warm, and giving warm Water all the time till he is effectually cured.

If the mange has been contracted by low feeding and negligence, the Horſe muſt be more indulged both in Hay and Corn, yet not ſo as to cloy and ſurfeit him. It will likewiſe be neceſſary to cloath him, but not to keep him too hot, for that would be going to an extream, that would be injurious and hurtful to a Horſe that had been much accuſtomed to the cold, beſides very hot cloathing is apt to increaſe and give freſh fuel to this diſtemper. In this caſe however, cloathing and a better diet contributes very much to the cure, as it helps to increaſe perſpiration, ſo that there is ſeldom any thing further wanting, beſides ſome outward application, tho' this kind generally proves the moſt tedious, becauſe the mange will ſeldom wear off till the conſtitution mends, as has been already obſerved.

After a Horſe has got clear of this diſtemper, his ſtanding ſhould be waſh'd clean with ſoap ſuds, and his ſtable fum'd with burning pitch, or with charcoal. If his cloaths are too good to be deſtroy'd, they ſhould be ſoak'd in ſcalding water and waſh'd clean, and carefully dry'd; which precautions will be neceſſary to ſecure other Horſes from the infection.

Of the Farcin, or Farcy.

THE *French* and *Italians*, and moſt of our own writers copying after them, have injudiciouſly reckon'd up five or ſix different kinds of Farcys, haved claſſed along with this malady, ſeveral of thoſe ſcorbutick caſes I have treated of in the preceding ſections, which altho' they are indeed obſtinate, and hard enough to be cured, yet have none of them the effects of a true Farcy. That which they call the flying Farcy, riſing in little lumps about the ſize of hazle nuts all over the Body of a Horſe, and which ſuddenly diſappear in one place, and as ſuddenly ſtart up in another, are nothing at all but the heats that ſometimes in the ſpring, break out on thoſe Horſes that have been full fed, been kept long at dry meats, and have had but little exerciſe, which often creates an acrimony and ſharpneſs, that burſts through the Skin with heat and inflammation. The eruptions that appear like dry corns, and ſpread themſelves all over the Breaſt, Neck, Back and Loins, and the ſmall fleſhy hurdles which lye dead in the Skin, with little or no itching, without coming to any maturity, are alſo accounted by ſome as a ſpecies of the Farcy, but improperly, for tho' theſe may continue ſo long upon a Horſe, as to hinder him from thriving and looking well, yet they have not the leaſt tendency to a Farcy, and ſeldom or never ſuppurate and turn into matter, but wear off inſenſibly and by degrees, and without any ill conſequence, when they happen to be rightly managed. Neither have thoſe ſoft watry tumors, that riſe in ſeveral parts of the Body of a Horſe, which our writers call the Watry Farcy, any direct relation to that diſtemper, but are only an effort of nature to carry off ſome acute ſickneſs. Beſides all this, they have accounted the various ſymptoms, that uſually riſe in this diſtemper, and the different aſpects and appearances of the ſores and ulcers, as ſo many different ſpecies of the Farcy: All which are very erroneous, as will be ſhewn hereafter.

Miſtakes concerning the Farcy.

BUT the true Farcy is properly a Diſtemper of the Blood-Veſſels, that generally follows the tract of the Veins, and when inveterate, thickens their Coats, and common Integuments, ſo as they become like ſo many cords, and theſe are larger or ſmaller, in proportion to the ſize and capacity of the Veins that are affected by it. It is ſeldom perceivable on the Arteries, becauſe of their continual motion and pulſation, and likewiſe by reaſon of the ſpring and elaſticity with which they are endowed, which no doubt, prevents the Juices of the arterial Coats coming to a Stagnation; whereas the

The Farcy deſcrib'd.

Veins

Veins being more looſe and flaccid, and having no natural action of their own, but that which is cauſed by the pulſation of the Arteries, that lye underneath or near them, or by the action of the Muſcles in their common exerciſe, muſt therefore be more eaſily affected, when once their Coats become replete with acrimonious ſharp Juices.

The Cauſes of the Farcy.

THIS I take to be the true nature of the Farcy, and the cauſe of the Veins being ſo much corded, which renders the cure ſo difficult and troubleſome. As for the more remote cauſes thereof they are various, proceeding from many of the ſame errors that bring on ſurfeits, and other chronical diſeaſes, *viz.* drinking cold water when a Horſe has been heated with hard exerciſe, or cooling ſuddenly after exerciſe, over working Horſes in hot weather, cauſing an over great expence of the ſerous parts of the Blood; if a Horſe that has been thus uſed eſcapes a fever, he may readily enough fall into the Farcy, or if he chances to be ſeiz'd with a fever, ſuch a fever may end with a Farcy, or ſome obſtinate ſurfeit; but from what I have obſerved of this diſtemper, I take the moſt uſual cauſe to proceed from a crude or unwholſome diet, *viz.* eating new oats, new hay, clover, and rye-graſs, which things however, are much more hurtful to ſome Horſes than to others. Too great a quantity of food in proportion to a Horſe's exerciſe, altho' it be good in its kind, may alſo produce the Farcy. Reſtraining Horſes too much from water in hot weather, when they require it moſt to dilute and keep their Blood in a fluid ſtate, eſpecially thoſe Horſes that have a plentiful allowance of hay and oats. And as the Farcy often proceeds from repletion and fulneſs, by overſtretching and relaxing the Veſſels; ſo it alſo takes its riſe ſometimes from ſtinting Horſes too much in their food, but eſpecially from feeding irregularly, ſtarving them at one time, and glutting them at another; all which things tend greatly to deprave the Blood and Juices, which by degrees bring on ſuch diſtempers. Wounds with very ſmall, and pointed inſtruments, ſuch as ſharp ſpurs, ſharp ſplinters of hard wood, or any thing elſe that makes a puncture in the Coats of the Blood-Veſſels; eſpecially when the previous ſtate of the Blood happens to be bad. And ſometimes the Farcy may proceed from infection, when it happens to be a ſickly time among Horſes, or when it is epidemical; however this is but ſeldom, for the Farcy in the common way is rarely infectious, or any ways hurtful to other Horſes, as we ſee by daily experience.

The Signs.

As to the ſigns of the Farcy, they are pretty manifeſt to the eye, and generally well known; at firſt one or more ſmall tumors, or round buds, like grapes or berries, ſpringing out over the Veins, and very often exquiſitely painful to the touch; in the beginning they are hard, but ſoon turn into ſoft

bliſters,

bliſters, which when broke, diſcharge an oily or bloody ichor, and turn into very foul and ill-diſpoſed ulcers.

In ſome Horſes it appears on the Head only; in ſome on the external Juglar or Neck Vein; in others, on the Plate Vein, and runs downward, on the inſide of the Fore-Arm towards the Knee, and very often upwards towards the Briſket; in ſome the farcy ſhews itſelf firſt on the hind parts, about the paſterns, and along the large Veins on the inſide of the Thigh, riſing upwards into the Groin, and towards the Sheath; and ſometimes the farcy makes its firſt appearance on the Flanks, and ſpreads by degrees towards the Lower Belly, where it often becomes very troubleſome.

When the farcy appears on the Head only, it is eaſily cured, eſpecially when it is ſcaled on the Cheeks or Fore-head, where there is little or no ſubſtance of Fleſh, and the Blood-veſſels very ſmall; it is rather more difficult, when it affects the Lips, the Noſtrils, the Eyes, and Kernels under the Jaws, and other ſoft and looſe parts, eſpecially if it continues ſo long till the Neck-vein becomes affected by it, and turns corded. When it begins on the outſide of the Shoulder, or on the outſide of the Hips, the cure is ſeldom difficult, becauſe the Blood-veſſels on thoſe parts, are not only ſmall, but are well-braced, and by their ſituation kept in a kind of continual tenſion, which very much contributes to the removal of the obſtructions in the coats of the affected Veins, and this is further helped by the action of thoſe parts. But when the farcy riſes firſt on the Plate-vein, and if that Vein ſwell much and turns corded, it proves ſometimes troubleſome enough, eſpecially if the diſtemper increaſes, ſo as to affect the axillary Glands or Kernels under the Arm-pits, it then becomes ſomewhat difficult and hard to cure: but the difficulty is yet greater, when the crural Veins on the inſide of the Thigh are corded, and beſet with buds, when it riſes upwards and affects the Inguinal Glands, *viz.* the Kernels of the Groins and the cavernous body of the Yard, which often happens, the cure will not only prove difficult but tedious. When the farcy begins on the Paſterns or lower Limbs, it often becomes very uncertain, and of doubtful iſſue, unleſs a timely ſtop be put to it, and though a Horſe may indeed eſcape with his Life, yet the ſwelling in thoſe dependent parts, grows ſo exceſſively large, in ſome conſtitutions, and the Limbs ſo much disfigured thereby, with foul ſores and callous ulcerations, that ſuch a one is ſeldom fit for any thing afterwards, but the meaneſt drudgery. But it is always a promiſing ſign, wherever the farcy happens to be ſituated, if it ſpreads no further.

It is uſual for the farcy to begin only on one ſide of the body, but when it paſſes over to the other, for inſtance, from the near ſide to the off ſide,

or from the off ſide to the near, it ſhews it is either of a malignant kind, or that it is very far gone, and becomes doubtful as to the cure; but when it riſes on the Spines of the Back and Loins, it is then for the moſt part dangerous, unleſs when its firſt appearance has been on the Shoulders or Hips, for in that caſe the anguiſh ſometimes reaches to thoſe parts without much hazard, and is often cured with little or no trouble. The farcy is always more dangerous to Horſes that are fat and full of blood, than to thoſe that are in a more moderate caſe; though to a very lean Horſe, that has been extremely hard worked, it is ſometimes dangerous; but when a Horſe has been ailing for ſome time before, and feeds poorly; if he is inwardly unſound, if a purging comes upon him, and continues without abatement, but rather increaſes; if the infection has ſpread itſelf near the large muſcular interſtices, that produce freſh ſwellings and large abceſſes, the farcy, in theſe circumſtances, will make a quick riddance and prove fatal. When the farcy is epidemical, as ſometimes happens, it riſes on ſeveral parts of the body at once, and on both ſides, firſt upon the principal Veins, but ſoon changes and forms naſty foul ulcers between the interſtices of the Muſcles, inflates and ſwells the Emunctories and Kernels about the Neck and Throat, brings a profuſe running of greeniſh and bloody matter at both Noſtrils, with a cadaverous carrion-like ſmell, and ſoon ends in a moſt miſerable rot. But this is properly a peſtilential diſtemper, though it may have ſome of the ſymptoms of the farcy in the beginning, and at laſt of the glanders, and if there was any hopes of a recovery, ought to be treated as a plague or murrian.

Specifick remedies of little uſe in the farcy.

By what has been here obſerved concerning the farcy, it will appear, that thoſe may be greatly diſappointed who depend on ſome ſingle ſpecifick drink or ball for a certain cure, though nothing is more common and uſual; for there is ſcarce a gentleman who keeps any number of Horſes, that has not ſome favourite receit for the cure of the farcy, which has been recommended as infallible. I have had many of this kind communicated to me, ſome of which that were the moſt likely to ſucceed, I have made trial of, more out of regard to the owners, whom I was willing to oblige, than from any great opinion I had of ſuch things, for after ſufficient trial of them I have been forced to leave them off, and have recourſe to a more rational method; and indeed, no medicine in the world, whatever ſpecifick virtues it may be endowed with, can anſwer in all caſes, and but ſeldom in any, without ſome right conduct and management in the uſe of it; this is plainly manifeſt in the Peruvian or Jeſuit's Bark, which perhaps is the greateſt ſpecifick that has ever been known in intermitting diſtempers; and yet there

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are many caſes of this kind where the bark is abſolutely hurtful, and ſome, where the Bark alone will not anſwer without correctors, and other proper helps; and even where this is given, the time muſt alſo be regarded, for if it be adminiſtered unſeaſonably, as in a fit or paroxiſm, or very near it, this excellent medicine, if the patient receive no hurt by it, will at leaſt loſe a good deal of its effect.

The farcy eaſily cured where the ſymptoms are favourable.

Now the ſymptoms of the farcy are ſometimes ſo favourable, that it is eaſily conquered by a very plain and ſimple management, and when it riſes ſuperficial upon the ſmaller veſſels, it will often go off with moderate labour, without the uſe of any other means, either external or internal, beſides bleeding. Some inſtances of this kind I have known, and have been told of others, where Horſes have got clear of the farcy by going to plow and cart: I have often cured it with one or two drinks, when it has been but juſt begun, and not of a very malignant kind. Such inſtances as theſe, which are not frequent, may eaſily give a reputation to things of no great efficacy, and bring them into eſteem; though whoever acquires any true notion of the farcy, will ſee plainly, that in any bad kind, or in an advanced degree, it is not to be conquered but by ſuch things as are fitly adapted to the various ſymptoms, as they ariſe in the different ſtages of the diſtemper.

The farcy ſometimes in its firſt appearance reſembles the *St. Anthony's Fire*.

THE farcy, in its beginning, reſembles the *St. Anthony's Fire* more nearly than any other diſtemper of the human body, by the exceſſive heat and pain of the buds, and their turning ſo ſoon into bliſters; and in its progreſs, eſpecially when it affects the limbs, it ſeems to have a near affinity with the Lepra, the ſame diſtemper, in a more advanced degree, and ſituated in the dependent parts. In a *St. Anthony's Fire* the ſkin under the *Cuticula* is always more or leſs thickened according to the degree of inflammation, and the Veins near the inflamed parts are generally turgid and full; the ſame thing is obſervable in the farcy in a much greater degree. The *St. Anthony's Fire* is generally removed with bleeding, and other evacuations internally, and by applying cooling and emolient applications to the ſores, as poultices of bread and milk, with elder-flowers, and ſuch like. The ſame things will anſwer ſometimes very ſpeedily in a beginning farcy, when it makes its firſt appearance on the lower Limbs, where ſuch things can be bound on and applied provided the Horſe has a thin ſkin, and not hairy about his Legs; but where it is otherwiſe, as in Horſes of a coarſer mould, that have their Skins thick and their Fibres rigid and ſtrong, theſe milder applications will avail but little, and we often find ſuch Horſes as theſe, the moſt ſubject to the farcy, and the hardeſt to cure.

But tho' the farcy often begins with many of the ſymptoms that reſemble a *St. Anthony's Fire*, yet if it is not ſtopped in ſome reaſonable time, it will ſoon degenerate, and according to Horſes different temperaments, participates of almoſt all the external diſeaſes to which the animal body is ſubject. Sometimes the ſores turn ſcrophulous, and affect the Glands and Joints, like the Evil, and render the Bones carious; ſometimes they breed hard ſchirrous ſubſtances that can neither be diſſolved nor eaſily extirpated; and very often deep abſceſſes are found between the large Muſcles, ſuch as will ſoon waſte the conſtitution of any Horſe; and ſometimes the ſores turn cancerous, which things having hitherto been but little underſtood by the practitioners of farriery, have been the cauſe why ſo many poiſonable ingredients are uſed, and other odd practices have been in vain tried to conquer this diſtemper. Therefore to avoid the perplexity that ariſes from the various complications ſo uſual in the farcy, I ſhall conſider it in its different ſtates and degrees, which may be reduced to theſe three, *viz.*

Three degrees or ſtages in the farcy.

First, when it ſeizes only the ſmaller Veſſels, for inſtance, when it makes its firſt appearance on the Head; the outſide of the Shoulder; the prominent part of the Neck, above the Neck-Vein, or near the Withers; the outſide of the Hips, or any other part where the Veſſels are ſmall.

The Second ſtate of the diſtemper is, when it ſeizes the large Veins, and turns them corded as the Plate-Vein, the Jugular, or Neck-Vein, and Thigh-Veins, or when it takes its riſe about the Feet and Paſterns, ſpreading from thence towards the Hock or Knee; and with theſe may be reckoned, that kind which begins on the Flank, and creeps downwards towards the lower Belly.

And Lastly, when the farcy, which began on one ſide only, breaks out on the other alſo, or when it makes its firſt appearance on both ſides at once, or when the ſores or ulcers degenerate, and contract a bad diſpoſition, affecting the whole habit, which is the laſt ſtage of the diſtemper.

How Horſes are to be managed in the firſt ſtage of the diſtemper.

When the farcy makes its firſt appearance on the Head, it is generally, in young Horſes, that have their Heads ſomewhat charged with fleſh; it riſes on the Cheeks or Temples, and looks like a net-work, or like ſmall creeping twigs full of berries. Sometimes it inflames the Eye on the ſame ſide, and ſometimes little bliſters or buds, riſe on the Eye-lids, and very often the buds run along the ſide of the Noſe, making a circle round the edge of the Noſtril, and ſometimes round the Lip, which being generally ſwelled, hinders a Horſe from chewing his food, and ſo painfuls that he cannot bear to be handled about his Head. When the farcy riſes on the outſide of the Shoulder, it often begins fore-

ward near the point, and runs along the ſmall Veins on the upper part of the Arm with heat and inflammation; but the buds are ſeldom larger there than on the Face, and the ſwelling not ſo large in proportion as about the Eyes and Lips, which are ſoft and more eaſily diſtended by the influx of the vitiated juices. Sometimes a few ſmall buds riſe near the Withers, but theſe are inconſiderable and of little conſequence, as well as thoſe that riſe on the outſide of the Hip. The diſeaſe in all theſe appearances being ſuperficial, and affecting only the ſmaller veſſels is eaſily conquered by the following method, when taken in time; for the ſimpleſt farcy when it is ſuffered to go on, or when it happens to be neglected or ill treated, may degenerate into the worſt kind.

Bleeding in the farcy almoſt always neceſſary.

AND this being an inflammatory diſtemper, which in a particular manner affects the Blood-veſſels, muſt therefore require large bleeding where the Horſe happens to be fat and full of Blood; and it is not amiſs what many do in this caſe, to bleed both ſides of the Neck: The bleeding always contributes very much to check a beginning farcy, but is of ſmall ſervice afterwards. Yet if a Horſe be low in fleſh, the loſs of too much Blood ſometimes proves hurful.

AFTER bleeding let the Horſe have the following cooling and laxative drink.

Take the Leaves and Bark of Elder, of each a handful, ſharp-pointed Dock Root and *Rubia Tinctorum*, otherwiſe Madder, of each half a handful; Turmerick and Monks Rhubarb, bruiſed, of each half an ounce; Liquorice, ſliced, ſix drams; boil theſe in three pints of Water, to a quart, and while it is warm, diſſolve in it four ounces of Cream of Tartar, and the ſame quantity of Lenitive Electuary.

LET the Horſe have one of theſe drinks every other morning, for a week, keeping him faſting two hours before and after each drink, then a little warm water and a feed of ſcalded bran. This will keep his body open, and thereby abate the heat and effervеſcence of his Blood. At the ſame time let the following outward application be made to the affected parts.

Take Ointment of Elder, four ounces; Oil of Turpentine, two ounces; Sugar or Salt of Lead, half an ounce; Powder of white Vitriol, two drams; mix them together in a gallipot.

ANOINT the buds and wherever there is any ſwelling with this linament, as often as it dries, which will be neceſſary about twice a day, at firſt, till the ſores begin to run, and if the matter be thick and well digeſted, the Horſe will ſoon be well of his farcy. Sometimes the buds do not break, but ſink and diminiſh gradually, eſpecially the ſmaller ones, and only leave little bald ſpots. This is always a very favourable kind, and the moſt ſuperficial of all others, for the hair ſoon comes on again, and needs nothing further but only conſtant exerciſe or moderate labour to perfect the cure. But if ſome little ſmall lumps remain and continue for ſome time on the ſkin without hair, and though they be dry without moiſture, yet it will be proper in this caſe, as it is more obſtinate than the former, to give the Horſe Antimony, or the Liver of Antimony, for a month, two ounces a day for the firſt fortnight, and an ounce a day for the other fortnight. By following this method a farcy that riſes on parts where there is no very large Blood-veſſels, may be ſtopped in a week or ten days, whether it be on the Head, the outſide of the Shoulders, Hips, or under the Creſt on the prominent part of the Neck, and ſoon after be totally eradicated.

WHEN the farcy begins on the Plate-Vein, or on the Thigh-Vein, or Flank, or near the Paſterns, before or behind, which for diſtinctions ſake, I have reckoned the ſecond ſtate or degree of the diſtemper, the cure is ſeldom ſo expeditious, tho' when it happens to be diſcovered in time, it is ſometimes nip'd in the bud, of which I have had ſeveral inſtances among the Horſes where I have been concerned. At firſt the ſwelling is often no bigger than a hazle nut, ſometimes the Vein is but little corded in a beginning farcy with two or three little ſmall hard knots, about the ſize of large peas or horſe-beans, which are frequently overlooked thro' negligence or the ignorance of unexperienced perſons till it is more advanced, and by a gradual increaſe cauſes a viſible deformity, and ſometimes where the Blood is in a very ill diſpoſition, makes ſo ſwift a progreſs that the corded Vein, which in its natural ſtate is no larger than a wheaten ſtraw, or a ſmall reed, will in a few days become more than an inch in its diameter, and reſemble a pretty large rope. In the Thigh-Vein it is ſooner diſcovered, becauſe it ſometimes brings ſudden lameneſs and ſwellings about the hock. In the ſmall of the Leg, Feet, and Paſterns, it is often at firſt miſtaken for the greaſe, till it riſes upwards and fixes on the larger Veins. And therefore one can never be careful enough in examining into the minuteſt things about a Horſe; for in ſuch caſes as this, the cure depends greatly on timely applications; and I have known many Horſes cured of farcies that have begun

begun with very ill prognoſticks, by attacking the diſtemper before it has taken ſure footing.

And therefore when you obſerve the Plate-Vein, the Thigh-Vein, or the Neck-Vein in the leaſt corded, bleed immediately, and if on the Neck bleed the oppoſite ſide, and make the following application to the corded Vein without loſs of time.

Take the yellow or unrectified Oil of Turpentine, in a large phial or pint bottle, ſix ounces; Oil of Vitriol, three ounces; drop the Oil of Vitriol into the Oil of Turpentine, by little at a time, otherwiſe the bottle will burſt. When it has done ſmoaking, drop in more Oil of Vitriol, and ſo on till all is mixed.

This mixture is one of the beſt univerſals I have ever known in a beginning farcy; the Oil of Turpentine digeſts and makes the ſores run, and the Oil of Vitriol not only abates the Acrimony and ſharpneſs of the humors, and by that means checks the growth of proud fleſh, but alſo braces the Fibres, which is a material help in all ſuch caſes.

Rub the part firſt with a woolen cloth, then apply ſome of this mixture all over the buds, and wherever there is any ſwelling, either in the Vein or on the outward parts that lie near it. Let this be done twice a day or oftener, and at the ſame time give the Horſe the drink above preſcribed every other day, with a pound of Antimony in groſs powder, tied up in a bag, which is to be boiled with the other ingredients. This may be continued a fortnight, or longer if needful. And if upon the uſe of theſe things the ſores run plentifully, and the matter well digeſted, if they have no ulcerous diſpoſition, if their lips or edges are no ways thick and callous, if proud fleſh does not riſe, the matter not thin and oily, but thick and well concocted, like that which comes from a rowel; if the corded Vein grows flat and ſoft, and the buds and other ſores have a dry and burnt-like look; you may then expect a ſpeedy recovery, and it will be your intereſt to follow this outward application till the ſores begin to dry; and after that Ointment of Elder and Honey, of each equal parts may be uſed, to make the hair grow, or the following liniment, which excels all others for that purpoſe.

Take yellow Wax, two ounces; Sperma Ceti, one ounce; melt theſe together in a large gallipot, before a clear fire, or over a Charcoal fire in a chafin-diſh; when theſe are thoroughly incorporated, add two ounces

ounces of ſweet Oil, and then put in a dram of *French* Verdegreaſe, finely powdered, keeping conſtantly ſtirring till the mixture is cold, that the Verdegreaſe by its weight may not fall to the bottom.

This liniment will heal the ſores, ſmooth the ſkin, and make the hair grow. To confirm the cure, and to prevent a relapſe, give the Horſe an ounce of Liver of Antimony, or Crude Antimony, once a day in one of his feeds, for a month or longer; for theſe things are ſlow in operation, work only as alteratives, and therefore ſhould be continued for a conſiderable time.

When the farcy begins on the Flanks, or towards the Lower Belly, it ſometimes takes its riſe from a ſingle puncture of a very ſharp ſpur, eſpecially when the Blood happens to be previouſly depraved; and in ſuch a caſe a ſingle puncture is more dangerous than when a Horſe is ſpured till his ſides are raw; for then a digeſtion and a running of laudable matter quickly follows, that prevents it turning to the farcy. But this is not always the reaſon of the farcy beginning towards the Flank, or ſpurring place; for I have often known it come there in Horſes that have not been touched with the ſpur, at firſt generally one ſingle bud or two, with the Vein a little corded, attended with ſharp pain and uneaſineſs, in ſo much that a Horſe, tho' naturally quiet and good tempered, will ſcarce ſuffer any one to come near him. The pain and ſmarting is one ſure ſign to diſtinguiſh the farcy from common accidents. The ſtaring of the hair, ſtanding up like a tuft all round the buds or bliſters, and the matter which iſſues from the ſores proceding from the coats of the Veins or Membranes is always purulent, and of a clammy or greaſy conſiſtence; for fat Horſes, or Horſes at rank ſucculent graſs, are the moſt ſubject to this kind, and if it is not ſoon ſtopped, the buds will increaſe and multiply, and ſpread themſelves on the Lower Belly, and other looſe and dependent parts, as the Sheath, the Groin, and ſometimes forwards towards the Briſket. The reaſon of which may be eaſily apprehended by any one who conſiders that the Lower Belly is made up of parts that are eaſily ſtretched and diſtended; for a rowel or the tightneſs of a girth, or a ſmall puncture on the Belly or Flanks of a fat Horſe proves ſometimes troubleſome enough, but much more in ſo depraved a ſtate as the farcy, wherein many bad ſymptoms are apt to riſe and increaſe very faſt, and become obſtinate, not only by reaſon of the innumerable twigs of veins that creep all over the Belly and Flanks; but becauſe of the great plenty of fat that lies under the ſkin and invirons theſe Veins, which breeds a very ill diſpoſition in the ſores and ulcers. And therefore when the

The farcy that begins on the Flanks ought not to be overlooked.

farcy

farcy begins on the Flank or Lower Belly, let no time be loſt, but as ſoon as you perceive it, uſe the following application outwardly.

Take Oil of Turpentine and Oil of Vitriol, of each three ounces; mix them together as directed above, by pouring in the Oil of Vitriol by little and little, till the ebullition is over and the whole incorporated, which will be thickiſh and of a dark colour.

Rub this mixture well into the buds and ſores once or twice a day, or wherever there is any ſwelling till it abates, and that the ſores run a laudable matter. If the pain and tenderneſs goes off, that the Horſe will ſuffer the affected parts to be handled, it is a promiſing ſign; as alſo when the ulcers grow ſmooth and look clean, and the ſwelling ſinks and ſubſides. The quantity of Oil of Vitriol is here enlarged, which I have always found neceſſary when the farcy is ſeated in parts that are looſe and ſubject to moiſture and humidity, which engenders proud fleſh, and therefore requires ſuch applications as are more intenſely ſharp, and in ſome meaſure compreſs like a bandage. And to prevent the ſwelling of the Lower Belly, which ſoon increaſes with the farcy, and grows dangerous, apply the following mixture all over the ſide that is affected.

Take rectified Spirit of Wine, four ounces; Oil of Vitriol and Oil of Turpentine, of each two ounces; the beſt white Wine Vinegar or old Verjuice, ſix ounces; mix theſe carefully together. Or the following,

Take Spirits of Wine, rectified, four ounces; Camphire, half an ounce; diſſolve the Camphire in the Spirits, then add Vinegar or old Verjuice, ſix ounces; white Vitriol, in fine powder, and diſſolved in a gill of Spring Water, one ounce; mix them together, ſhaking the phial as it is uſed.

Rub the diſeaſed ſide with either of theſe as far downwards as the centre of the Belly, which will contribute to brace up the Fibres of the Skin and of the Veins, and keep them from ſtretching, and by that means prevent the ſpreading of the farcy; at the ſame time give internally the drink above preſcribed, with a courſe of antimonials, with Gum Guiacum, ſuch as ſhall be preſently preſcribed; and if the Horſe be found in his Vitals, and the farcy not too far gone, this method, ſtrictly followed, will cure him.

When

The farcy in the Paſterns how to be treated.

WHEN the farcy begins on or near the Paſterns, it often proves tedious, and leaves ſwellings and other blemiſhes behind it; yet if it be diſcovered in time, it may be cured without much difficulty. In the Lower Limbs the farcy lies ſometimes concealed for a great while, and makes ſo ſlow a progreſs at firſt, that it is often miſtaken for the greaſe, or for a blow or a kick of another Horſe, and goes by a general appellation of a humour ſettled in the Leg. It is true, the greaſe or kick of another Horſe, or even a blow or contuſion on thoſe parts may turn to a farcy, either through bad management or in a bad conſtitution; but that we may be able to form a judgment in this caſe, I ſhall lay down ſome diſtinguiſhing ſigns whereby to know a beginning farcy in the Limbs, and in what reſpects chiefly it differs from the greaſe or other accidents. A kick or a bruiſe is for the moſt part attended with a ſudden ſwelling, or by a contuſed wound on the part, which is eaſily ſeen, and generally digeſts and turns ſpeedily to matter, or goes off by diſcuſſion. The greaſe for the moſt part breaks out about the bending of the Paſterns backwards, and runs downwards towards the Heel, and if it breaks upwards, it is owing to the ſharpneſs of the humour, cauſed by the want of a free diſcharge below, and then it only owſes through the Skin and diſcharges a corroſive ſerum, that ſometimes brings off the hair or turns ſcabby, with a conſtant heat in the part till it is cured. The farcy on the other hand often begins on the Paſtern Joint, or on the Shakle Vein. When it begins on the Paſtern Joint, it is uſually one ſingle bud, at firſt, on the fore part or on one ſide of the Paſtern, which brings a fulneſs and ſwelling into that joint and no where elſe, till the diſtemper gains ground, when ſeveral other buds begin to riſe and ſpring forth in little round tumors, that greatly deform the figure and ſhape of the Leg, not like the greaſe or a common humour in the Limb, where the ſwelling is ſmooth and equal; but like a knotted crab-tree, which firſt diſables the Horſe from lying down, and then the knots aſcend upwards by the courſe of the Veins into the Hock, and from thence into the Thigh, *&c.* as has been already deſcribed. That which begins on the Shakle Vein is where it paſſes over the great Sinew behind, and generally happens after long travelling or labour, when the Vein has been bruiſed by the frequent frictions of the Sinew. Theſe Veins are ſo ſmall naturally, that they are ſcarce ever to be ſeen or felt, but on very fine thin ſkinned Horſes, and even not in theſe but when they are heated with exerciſe, and that all the Veins are filled with the Blood's rarefaction; and the Veins that creep over the Paſtern Joints being alſo very ſmall, and lying deep under a thick ſkin, are ſometimes bruiſed in the ſame manner with long journeys, by the continual

Wherein the farcy in the limbs differs from the greaſe.

working

working of the Joint, which cauſes the Farcy to begin there in Horſes that are old, that have their Limbs ſtiff, and their Blood poor and depauperated. In all theſe caſes, a great deal depends on ſetting about the cure early; and I have known it often ſtop'd by very ſimple means, before it has begun to ſpread. A Poultice made with Bran and Verjuice, bound round the part, renewing it once a day, will often do the buſineſs without any other help, by contracting the Coats of the Veſſels, keeping the part always cool, and preventing the influx of humours, and if proud fleſh ariſe, touching it with Oil of Vitriol, or Aqua Fortis, an hour before you apply the poultice, letting it continue bare all that while, that theſe Oils may have their effect; for as yet, we ſuppoſe the diſtemper to be only local, and confin'd to a ſingle part, and therefore, may be chiefly conquered by the help of outward applications made in time and cloſely followed.

But when once the Farcy gets ground, that the larger Veſſels become corded, ſo as to conſtitute the ſecond, or more advanced ſtate of the diſtemper, it then requires both time and ſkill to manage it; and thoſe who imagine that the Farcy when arrived to this degree, may be ſoon cured with a few drinks, as many unexperienc'd perſons are apt to do, will for the moſt part find themſelves greatly diſappointed; and tho' indeed the chief benefit may be expected from inward means in ſuch caſes, yet the outward applications muſt not be omitted, but conſtantly uſed; and therefore if the Plate Vein, the Thigh Veins, or any other of the larger Veſſels happen to be corded, uſe the following mixture.

Take Linſeed Oil, half a pint; Oil of Turpentine, and Oil of Petre, of each two ounces; Tincture of Euphorbium, and Tincture of Hellebor, of each two drams; Martiatum, or the Soldier's Ointment, two ounces; and if that cannot be had, *Flanders* Oil of Bays may be ſubſtituted for it; Oil of Origanum, half an ounce; double Aqua Fortis, half an ounce; after the Ebullition is over, add two ounces of *Barbadoes* Tar, than ſhake the bottle gently, and keep the mixture for uſe. The Cure of the Farcy when it grows inveterate

Rub a moderate quantity of this into the corded Veins, and where ever there is any ſwelling proceeding from the Farcy. It conſiſts of hot ſtimulating ingredients, which are abſolutely neceſſary in all ſuch caſes, where the Juices that nouriſh the Veins are in a kind of coagulum, and participate of the nature of a callous, without ſenſibility, heat, or motion, except where the buds or tumors ariſe, which as has been obſerved, are very ſenſible, hot and angry, ſome like an eryſipelas, and ſome like a tetter or herpes, and in

creatures that have their Veſſels ſo large, and their Coats ſo thick, in proportion to what they are in the human Body, prove but a weak effort in nature to throw off the diſtemper; and this is no doubt, the reaſon why the Farcy becomes ſo difficult to cure in Horſes that are old, or inwardly diſeaſed, for in both theſe caſes, the Blood is often poor, cold and vapid, loſes its balſamick quality, and can ſcarce be recovered by any regimen or reſtorative whatever. But the above mixture, will help greatly to put the Blood and languid Juices of the external parts in motion, which is a principal intention in the cure of the Farcy, when it is arrived to this ſtate, once in two or three days is ſufficient for this application; but when the Skin is ſo much thickened over the ulcers, as to confine the matter underneath it, or if the Orifices be choak'd up with proud fungous Fleſh, it is neceſſary alſo in either caſe, to make an open paſſage for it with a ſmall hot iron, cauteriſing the ſides, and deſtroying all the proud Fleſh round the edges, after which it may be kept down by touching, as often as it appears or begins to ſprout out, either with Oil of Vitriol, Aqua Fortis, Aqua Regia, or with Butter of Antimony, which is the beſt of all where the ulcers are few in number; but this being a very powerful cauſtick, made chiefly from ſublimate, will create pain and inflammation, if it be apply'd much to the Limbs and nervous Parts, will take a Horſe off his ſtomach, and raiſe a fever, which may heighten and aggravate all the ſymptoms, eſpecially before the Blood is ſufficiently attenuated, and the Juices fitted for a freer circulation; otherwiſe when this is uſed with ſkill and judgment, it is of great ſervice to deſtroy the foulneſs of the ulcers, and to make them digeſt well, which ſoon gives a turn to the diſtemper. A Salve made by rubbing any quantity of Quick-ſilver with Aqua Fortis in a mortar to the conſiſtence of a liniment, will do great ſervice in this caſe, by ſmearing the ulcers with it when they appear foul and rank, and may be apply'd with leſs hazard than the Butter of Antimony. Burnt Allum and Lime Stones made into a fine powder, will have a good effect where there is humidity and moiſture, and will tranſmit nothing into the Blood that will prove hurtful.

When neceſſary to open the Buds and clean the Ulcers

MANY of our common Farriers uſe Arſenick, or Corroſive Sublimate after opening the buds, putting a ſmall quantity into each, which anſwers in Caſes where there are but few, and theſe not ſituated near large Blood-Veſſels, Joints, or Tendons. This they call coring out the Farcy, becauſe the Eſchar, or part that is burnt with theſe cauſticks, digeſts off like the cores that are drawn out of the Heels with poultices. Others uſe only Roman Vitriol in powder, or Sublimate and Vitriol mixed together in equal quantities, which is milder and leſs dangerous than Sublimate alone. But many

Horſes

Horſes have been poiſon'd by thoſe things, eſpecially with the Arſenick and Sublimate, when they have fallen into the hands of ignorant perſons. I have ſeen the whole Leg and Thigh full of buds and ulcers of various ſizes, ſo much pepper'd with Sublimate, that the Horſe has dy'd ſuddenly, with all the uſual ſymptoms of a ſtrong poiſon; and I once knew the greateſt part of a pack of Hounds poiſon'd with the Carcaſe of a Horſe that had been treated in this manner; for when the Sublimate, Arſenick, or other ponderous mineral combin'd with corroſive Salts, once enters the Blood in any quantity, as eaſily happens in ſo many apertures, theſe things tear the ſmall Veſſels to pieces wherever they paſs in the courſe of circulation, and if they do not cauſe ſudden and immediate death, they produce many new ſores and ulcers, not only in the external parts, which I have often obſerved after ſuch treatment, but inwardly croſions in the ſmall Veſſels of the principal *Viſcera*, and in the membranous parts, with many untowardly ſymptoms, which renders the caſe deſperate, and in brute creatures when hurt by ſuch managements, not worth the expence of a cure. But ſuch accidents ſeldom happen from a moderate uſe of the ſharp Oils, as they are more ſimple, and no ways combin'd with ponderous minerals, for they act more after the manner of the actual cautery, and rarely communicate their effects further than the part to which they are immediately apply'd, whereby they often do great ſervice, and with proper internals, effectually check the further progreſs of the Farcy.

Very deſperate Methods uſed in the Cure of the Farcy.

Now as to internals, they ought to be ſuch as are both efficacious and ſafe; yet when once the farcy is advanced to this degree, nothing is more common than to exhibit the moſt harſh and ruggid things that can be deviſed, agreeable to the common maxim, that a deſperate diſeaſe muſt have a deſperate remedy: And with this view, ſome give inwardly from four to eight ounces of Lapis Calaminaris; and ſome have further added two ounces of Tuty in fine powder, with other metallick ſubſtances, which are never ordered inwardly in the diſeaſes of the human body, unleſs by empyricks, but are frequently applied outwardly, in mixture with ointments, to dry up and incarn moiſt ſores and ulcers; and therefore, if they ſucceed at all with Horſes, it muſt be where there is a very great humidity and moiſture in their conſtitutions, of which few practitioners in farriery are proper judges.

Some give a pound of barrel ſoap, in one doſe, boiled in ſtale beer with Rue, Savin, and other herbs of the ſame intention; and the ſoap being extremely opening and deterſive, has ſucceeded with Horſes of very ſtrong conſtitutions that feed well, and before their ſtrength has been impaired;

but if ſuch a doſe be given to a weak Horſe, it will go nigh to throw him into an incurable ſcouring or diabetes.

Others go yet further, as with an intention either to kill or cure, by adminiſtering drinks made with green Vitriol or Copperas, Rock Allum, Roman Vitriol, and Oil of Vitriol, boiled in chamberlye, with Hempſeed, Hens-Dung, Hemlock, and common Salt. This medley has often been tried in many deſperate caſes, though I cannot ſay I ever heard its ſucceſs much boaſted of; the Copperas and Vitriols might perhaps make a kind of ſtomachick elixir for a Horſe, if it was corrected with warm ſpicy ingredients, but then it would have but little effect in an inveterate farcy; Hen-dung, and the dung of moſt other fowls, are reckoned to abound with ſalts that are very penetrating, and might be of ſome ſervice if the other things were ſuitable; the Hemlock participates ſomewhat of the nature of Opium, but is more ſtupifying, and ſome old writers have commended its inward uſe in obſtinate chronic caſes, eſpecially of the ſchropholous kind, but now it is never preſcribed but in outward applications; but what effect ingredients of ſuch contrary natures can have when thus combined together, is not eaſily to be accounted for. The main intention of the vitriolick medicines, if there be any intention at all in them, ſeems to be with a view to brace up the fibres of a very relaxed conſtitution, but this may be much better done by things of greater ſafety. I have known a farcy ſtopped, to outward appearance, by ſuch odd management, but has ſoon broke out again with more violence than before; and often in ſuch caſes, when the farcy ſeems to be dried up, the cords, knots, and other deformities ſtill remain, and leave a ſickly, crazy, and ſurfeited conſtitution, which neither phyſick, graſs, or any other treatment is able to recover.

Those who uſe nothing but the decoctions or juices of herbs, ſuch as Wormwood, Rue, Elder, Ragwort, Horehound, and many other ſuch like ſimples, with a mixture of Wood-ſoot, Brandy or Aqua Vitæ, have a much better chance to cure the farcy if they begin in time, and take care to make proper applications outwardly, as there are nothing in ſuch ingredients but what are friendly to the animal conſtitution, and the Soot is certainly of great uſe in many caſes. I have ſeen ſeveral receipts of this kind that have been much commended, though I am apt to believe their ſucceſs has been chiefly in a beginning farcy. But in an inveterate kind, or when the farcy has grown ſo by its continuance, or by ill management, nothing can come in competition with mercurial and antimonial preparations, as I have often found from experience.

But in adminiſtering mercurial medicines, ſeveral cautions are neceſſary, eſpecially in an inveterate farcy, when it appears in ſeveral places of the Body, from a very bad diſpoſition of the Blood, and when the Veins are much corded; for all mercurials, by their weight, ſubtilty, and globular figure, work with great force and impetus in the animal canals, ſo as to increaſe the motion of the Blood to a very great degree, and therefore the reſiſtance mercurials meet with in the obſtructed Veſſels, when many of the ſmaller Veins are in a manner ſhut up, muſt cauſe very great diſorders in the animal œconomy; and this being often the caſe, the ſtronger and more compounded preparations of Mercury, which have been contrived for the greater efficacy, are ſometimes very hurtful, and not near ſo much to be depended on as thoſe that are more ſimple, of which I have ſeen many inſtances in practice. This is very evident from the effects of Calomel, which, though it may be reckoned among the milder preparations of Mercury, and has been always reputed a very ſafe medicine, in many diſeaſes of the human body, eſpecially in the hands of able practitioners, yet it ſeldom avails in a ſtubborn inveterate farcy, or any other chronical diſtemper in a Horſe, but often cauſes ſymptoms that are not very agreeable, as loſs of appetite, ſtaring of the hair, ſcabs, blotches on the ſkin, and other ſuch deformities, which may be owing to the corroſive ſalts with which it is combined, and which perhaps are ſeldom ſo far blunted by ſublimation, as to paſs inoffenſively thro' the capillary Veſſels, eſpecially in ſuch habits, that in a more particular manner affect the Veins; and therefore, as I have often obſerved in Horſes, makes its way through the Skin, which rather increaſes than abates the diſtemper.

Cautions in adminiſtering mercurial medicines.

On the other hand, the ſtronger preparations of Mercury, as the red and white precipitates, are yet more hazardous and injurious to the conſtitutions of Horſes, being more combined with ſharp and ſaline parts than the Calomel, and therefore only fit for outward applications. However ſome have ventured on theſe inwardly, both in the farcy and mange, and alſo to deſtroy worms, in which latter caſe I have known them do ſervice in very ſmall doſes, *viz.* four or five grains made up with an aloetick purge; but I have heard but of few inſtances of ſuch things in the farcy, it being impoſſible to repeat them without manifeſt danger, and in ſo ſtubborn a diſtemper, when once it is confirmed, two or three doſes will avail but little, but rather ſtrengthen this ill habit, and render it more complicated than it was before, and conſequently more obſtinate and incurable.

The

The Turbith Mineral is another very efficacious mercurial preparation, milder than the foregoing Precipitates. Its operation in the human body is chiefly emetick, and where it does not vomit, will ſometimes, in one ſingle doſe, raiſe a ſalivation. I have given a dram of this in an inveterate farcy, where the limbs have been greatly ſwoln, which in the ſpace of forty-eight hours, has dried up all the ſores, and in a ſurprizing manner brought down the ſwelling of the diſeaſed Limbs; but then it made the Horſe ſo violently ſick for ſeveral days, and ſcour to ſuch a degree, that it could not be repeated, ſo as to effectuate a cure, but moſt of the ſymptoms returned in the truce that was neceſſary, in order to his recovering the ſhock given by the force of ſo ſtrong a medicine.

I never made trial of any of the Mercurial Panaceas, which from corroſives are rendered mild in their operations and effects, by the art and labour of the chymiſt, theſe being too chargeable and uncertain to be given to Horſes; but I have often found benefit from Crude Mercury, or the moſt ſimple preparations of it, and even theſe require to be adminiſtered with great ſkill and judgment, and with ſome knowlege of the Horſe's conſtitution, for ſome Horſes will bear muoh more of ſuch things than others. I have frequently known Crude Mercury adminiſtered to Horſes with good ſucceſs, when their Wind has been ſuſpected, and without any ill conſequence; I have known an ounce of Quickſilver ſhook in a phial, with three or four ounces of the Oil of Turpentine, till its parts were ſeparated and broke, and changed to a dark-coloured draught, and given in the farcy, and if not too cloſely repeated, it will, in ſome conſtitutions, effectuate a cure in a very ſhort time; I have ſometimes cauſed an ounce of Quickſilver to be rubbed together with an ounce of Turpentine, to kill the Quickſilver, and then made into two balls, with Diapente and Gum Guiacum, of each an ounce, and Honey ſufficient to bring it into a proper conſiſtence, and given at twice, allowing the ſpace of four or five days between each, and with four of theſe have cured the farcy when it has been very rank, with the help of lenitive purges and outward applications, in the manner above directed.

But if the Crude Mercury, or even the Æthiops Mineral, be cloſely followed in repeated doſes, whether large or ſmall, it will bring ſome Horſes inſenſibly into a ſalivation, which perhaps may be thought a little ſtrange to thoſe who have been converſant with the effects of Mercury in the diſeaſes of the human body, but have not had experience in ſuch things when adminiſtered to Horſes, becauſe the Sulphur in the Æthiops Mineral

being equal in quantity to the Mercury, has generally been looked upon as an effectual guard upon it; and indeed it has ſcarce been ſeen to have the leaſt tendency towards a ſalivation in the human body, though ſometimes it will make its way through the pores of the ſkin; and I have often known it given to very young children of ſchrophulous and ſcorbutick habits, for ſeveral months together, without any ſuch effect; from whence one would imagine that a very ſmall portion of the Mercury in the Æthiops, enters into the blood of infants, and this may be owing partly to the extreme ſmallneſs of their veſſels, and partly to ſlime and viſcidities in their bowels, that frequently furs up the mouths of the Lacteals both in younger and older perſons, to which inconveniencies Horſes are not ſo liable as men, by reaſon of their more ſimple diet, which never conſiſts of viſcid or oily things, and their drink being pure water, eaſily mixes and aſſimulates with all their food; and therefore it is eaſy to imagine, that moſt mercurial medicines may enter more readily into the maſs of blood in a Horſe than in man, their Lacteals being alſo more large, open and free; and a Horſe's Blood being once ſated with the Mercury, he may be the ſooner affected by it, that the poſition of his Head is in ſome meaſure dependent, and that the courſe of the Thoracick Duct, which conveys both aliment and phyſick into the Blood, is partly horizontal, and upon a level with the receptacle of the Chyle: And whereas the carotid and jugular Arteries in Men, carry the Blood ſtreight upwards to the Head and the Veins, in returning it in the courſe of circulation perpendicularly downwards, therefore this kind of mechaniſm is the cauſe, why the return of the Blood from the Head is more quick and ſudden in men than in quadrupeds, where the Veſſels are either in a horizontal or oblique direction, and may in a great meaſure be the reaſon why we often obſerve in Horſes, a great accumulation of ſeroſities upon the Glands of the Mouth and Noſe, in their colds and other diſorders, whereby many of their diſeaſes are thrown off critically by theſe outlets.

From theſe conſiderations it will be eaſy to conceive, how the ſame kind of mechaniſm diſpoſes mercurial medicines to exert their force more immediately upon the parotid Glands, and thoſe in the Mouth and Noſe of a Horſe, which is alſo evident from experience, though ſome Horſes are more eaſily affected than others, of which I have known ſeveral inſtances, eſpecially among the heavy coach breed, theſe being, for the moſt part, of more relaxed conſtitutions than the generality of ſaddle Horſes; and I have ſeen ſome of them begin to ſlabber and unable to chew their hay and oats, after taking Æthiops Mineral about a week or ten days conſtant, though not above half an ounce in a doſe; and I have known the ſame

ſymptoms,

ſymptoms ariſe from Crude Mercury, where only two drams has been given, and continued about the ſame ſpace of time. And therefore, whoever adminiſters Crude Mercury, or ſuch mercurial preparations, where the Mercury is but little changed, or ſuch preparations as are charged and combined with corroſives, muſt allow ſufficient intervals between the doſes, to prevent a flux from the Mouth and Noſe; for whatever ſome may pretend to, it has been found altogether impracticable to carry a Horſe through a ſalivation, or even ſo much as to keep him one week under it, by all the helps that the greateſt art and ſkill can afford; for as ſoon as a Horſe's Blood begins to be ſated with the Mercury, its eaſy admittance foreward towards his Head, cauſes a repletion of all the Blood-Veſſels in thoſe parts, and thereby produces many untowardly ſymptoms. His Eyes appear ſwoln and look watery, with a deadneſs and ſtupor in his looks, ſomewhat reſembling the ſtaggers; the Plethora and fulneſs of his Veſſels produces a feebleneſs, whereby he grows languid in all his motions; and no creature whatever is more ſheepiſh and daſtardly than ſome of the moſt boiſterous kind of Horſes, when once they are overcome, either by force or ſickneſs; the parotid and ſalivary Glands become inflated, and his Mouth ſo tender, that although he appears hungry and willing to eat, he only mumbles his hay and drops it out of his Mouth, mixed with a little viſcid ſlime, and with great difficulty will make a ſhift to ſwallow a few oats and a little bran; there is the ſame difficulty in his drinking, for as ſoon as he holds his Head down to his water his Mouth guſhes full of a roapy ſlime, and moſt Horſes, even in a common cold, the yellows, or any other diſtemper that affects the Glands of the Head, will refuſe to drink gruel or water, or to eat food ſufficient to keep him alive, while they are in this condition, becauſe the ſlaver mixes with their water and aliment, which is always very diſagreeable to them.

In ſome ſuch caſes, where there has been the ſymptoms of a beginning ſalivation, I have been forced to order them glyſters, to give preparations of Sulphur, lenitive purges with Rhubarb, and afterwards ſtrong decoctions of Guiacum to divert the flux from the Mouth and Noſe, and to carry it off by other outlets; but I never found any ſuch effect from the native Cinabar or Cinabar of Antimony, having often given the latter with great ſafety and uncommon ſucceſs, for two or three months together in ſome very obſtinate and inveterate caſes; for the Mercury in this preparation ſeems to be ſo fixed with the Antimony and Sulphur, that I could never obſerve it have the leaſt tendency to a ſalivation, nor expoſe a Horſe in the leaſt to catch cold. And therefore in an advanced degree of the farcy, when it is become obſtinate

ſtinate by its long continuance, it is in vain to hurry on a cure, but to proceed gradually; for if the diſtemper has been contracting for a long while together, and by that means gathered ſtrength and ſure footing, it is not to be removed but by ſlow degrees, during which time, if the Horſe is not very much disfigured or lame, he needs not lie idle and uſeleſs, but may be moderately worked, which always gives ſome aid and aſſiſtance to the cure.

The hurrying of a cure in an obſtinate and inveterate farcy often dangerous.

Now in this advanced degree of the farcy, obſerve carefully the complexion and other qualities of the buds and ſores, whether they have a yellowiſh hue, and look ſchirrous and hard about the edges, which is frequently the caſe when the Liver happens to be affected, if not taken notice of in time, the cure may be fruſtrated. To remove this ſymptom give the following drink.

Take the Roots of ſharp-pointed Dock, wiped clean from the mould and cut into ſmall ſlices, one handful; Rhapontick, or inſtead of the Rhapontick, Monk's Rhubarb, one ounce; Turmerick and Madder bruiſed, of each half an ounce; Liquorice ſliced, half an ounce. Boil in three pints of water to a quart, and in the decoction, while warm, diſſolve half an ounce of Caſtile or Venice Soap. Then take two drams of Saffron ty'd in a rag, ſqueeze it in the hot liquor till the virtue is got out of the Saffron, then add half a pint of White-Wine or ſoft Ale, and give it in the morning faſting.

The cure when the farcy is joined with the yellows.

Let this be repeated three or four days ſucceſſively, only after the firſt day, half in the morning faſting and the other half in the afternoon between his feeds.

If the buds and ſores look blackiſh and of a livid colour, it ſhews ſomewhat of a cold languid ſtate of the Blood and Juices tending to mortification. In which caſe the following drench will be of great ſervice.

When the blood is in a morbid ſtate.

Take of the beſt Jeſuits Bark groſly powdered, two ounces; Chamomile Flowers, one ounce; filings of ſteel, old nails, or any other pieces of old iron ty'd up in a rag, four ounces. Boil in three pints of water to a quart, pour off the decoction when ſettled, and let it be given in the morning.

It may be repeated three or four days, by boiling the ſame ingredients over again, until the decoction loſes moſt of its bitterneſs; and if it be

neceſſary to repeat it oftener, it may be made of freſh ingredients, except the iron, which will always ſerve to the end of the cure.

THESE things being ſufficiently repeated in either caſe, will bring the ſores to a better and more lively diſpoſition; and when this appears they may be diſcontinued, and no other internals need be given beſides the following balls.

Take eight ounces of Native Cinabar or Cinabar of Antimony; Long Birthwort and Gum Guiacum, in powder, of each four ounces. Honey ſufficient to make the whole into a paſte, to be formed into balls the ſize of large Walnuts, rolled in Liquorice Powder.

THE Cinabar of Antimony that riſes in the ſame proceſs with the Butter of Antimony, is ſaid to be the moſt efficacious. I have made trial of both, but without any ſenſible difference, and therefore I prefer that made in the common way, which is both cheaper and more eaſy to be had than the other.

THESE balls are proper in every ſtate of the farcy; I have often cured it in one week when the diſtemper has been but new, and before the ſkin was much defaced with the depraved ſtate of the ulcers, without drinks or any other means, by giving one or two of them in a day. And in an old farcy I have continued them for two or three months together, during all which time the diſtemper has been ſenſibly declinining, with the uſe of theſe balls only, and the help of outward applications; which as I have already obſerved, are by no means to be neglected, but ought to be very conſtant; for without deſtroying the fungous fleſh, and clearing the ſores and ulcers from the ſharp corroſive matter, with which they are apt to abound, the beſt inward means may fail and prove of no effect. But of this ſufficient directions have been given above.

Some kinds of the farcy not to be cur'd without the conſtant uſe of outward applications.

THE laſt and moſt complicated ſtate of the farcy here mentioned, being in a great meaſure incurable, I ſhall only deſcribe the chief ſymptoms, with the manner thereof, that the onwers of ſuch Horſes may be at no unneceſſary expence and trouble, when in the end they may loſe all their labour and meet with a diſappointment.

In what manner the farcy appears when it is incurable.

WHEN a farcy that has begun with no other than the common and uſual ſymptoms, but by long continuance, by improper applications, or by neglect has ſpread and increaſed; if freſh buds are continually ſprouting forth while the old ones remain foul and ulcerous; if they riſe on the Spines of the Back and Loins; if the Horſe grows hide-bound; if abſceſſes are

formed in the fleſhy parts between the interſtices of the large Muſcles; if his Eyes look dead and lifeleſs; if he forſakes his food and ſcours often, eſpecially if his excrements be thin and of a blackiſh colour, you may look upon his farcy as degenerated into an incurable conſumption. And tho' a Horſe may have but few of theſe worſer ſymptoms, may eat his allowance, and drink his water, and look lively and ſprightly about the Head; yet if the Plate-Vein, or the Thigh-Vein continue large and corded, and if theſe remain ſo after firing and other proper applications have been made, it is a ſign the diſtemper has penetrated inwards, and has affected ſome of the internal parts that lie out of the reach of outward applications, which will render the cure both tedious and expenſive; firing the corded Vein is ſometimes a great help, and the ſpeedieſt in this caſe, eſpecially when fired pretty deep, that a good diſcharge can be made; for tho' that branch of the vein is likely to be loſt by it, yet the circulation of the Blood may be preſerved by the other communicating branches, as we ſee often in caſes when a Vein is loſt in the Neck after bleeding. Only it is to be obſerved, when a Horſe loſes ſome of the principal Veins, as the Plate-Vein, or the Thigh-Vein, and the farcy by that means ſtopped, yet the parts will remain weak for ſome time afterwards; and therefore he ſhould not be too much preſſed in any buſineſs till he recovers his ſtrength.

When the farcy has continued ſo long in the limbs as to produce large calloſities and ſwellings about the joints, tho' the ulcers are dried, up and no freſh buds appear any where, yet when the Leg is very much increaſed in bulk, and the joints ſtiff and unfit for motion, ſuch limbs are ſeldom ever recovered to their perfect uſe and ſhape, or at leaſt not for a long time.

There remains yet another caſe that has been partly deſcribed among the prognoſticks, *viz.* when many of the common ſymptoms of a farcy are epidemical. I remember ſome few Horſes about fourteen years ago, ſeized with the ſymptoms of a rank farcy, that was infectious and very fatal; but this did not continue long. It began with one or two ſingle buds upon the Flank, near the Groins, or the Emunctories under the Jaws, and ſoon ſpread itſelf all over the body on both ſides, attended with a profuſe running of purulent matter from the Noſe, which ſoon made them forſake all manner of food. The buds generally broke in twenty-four hours, and diſcharged a vapid bloody ichor, which ſhewed a morbid ſtate of the whole maſs of Blood; and tho' this is what people generally call the farcy and glanders, yet it is properly a peſtilential diſtemper, and makes ſo ſudden a havock as takes away all hopes of a recovery; and if any-

How an epidemical or infectious farcy appears, and the conſequence thereof.

thing ſhould be attempted towards a cure, it muſt be by thoſe medicines preſcribed for malignant diſtempers, as has been already obſerved, for here outward applications are of little uſe. When Horſes are ſeized in this manner, they ſhould be immediately removed out of the way, to prevent others being infected by them.

The water farcy (as the farriers term it) has little or no relation to the true.

I ſhall conclude what I have further to ſay on this ſubject, with ſome few obſervations concerning the water farcy (or watry farcy, as ſome call it) which indeed is another diſeaſe, and has little or no reſemblance to a true farcy, either in its cauſe, ſymptoms, or effects; but has only obtained this name thro' ignorance and cuſtom.

This of two kinds.

THE water farcy is of two kinds, one the product of a feveriſh diſpoſition, the other is dropſical, and of that kind which in man reſembles an *Anaſarca*, where the water is not confined to the Belly and Limbs, but ſhews itſelf in ſeveral parts of the Body, with ſoft ſwellings, which yield to the preſſure of the fingers, as is uſual in all dropſical habits. This laſt kind uſually proceeds from foul feeding, or from the latter graſs and fog, that often comes up in great plenty with long continued cold rains, and breeds a ſluggiſh viſcid Blood. In this caſe, or from whatever other cauſe it proceeds, give the following infuſion.

The cure of the water farcy.

Take Rue, Chamomile-Flowers, and the Rind or Bark of Elder, of each a handful; ſix cloves of Garlick peeled and cut ſmall; Juniper Berries and Aniſeeds, of each an ounce; Saffron, one dram; infuſe theſe all night in a quart of boiling Water, wherein hot Iron has been quenched; pour off the infuſion in the morning, and add to it a pint of ſtale Beer, or a pint of white *Liſbon* Wine.

GIVE one half in the morning faſting, and the other half at night, about two hours before feeding time. Repeat this every other day for a week or a fortnight, feeding with the beſt hay and oats, and after his drinks a little ſcalded bran, allowing an ounce of Sulphur and Antimony in each feed. When the Horſe is brought into a ſomewhat better plight, give him two or three mild purges, made with an ounce of Succotrine Aloes, two or three drams of freſh Jallap, half an ounce of Cream of Tartar, and ſixty drops of Oil of Juniper, made into a Ball with Syrup of Marſh-Mallows or Honey. And this method will make a perfect cure if the Horſe be ſound in his Vitals, and if otherwiſe, that the watry ſwellings are the effect of ſome inward decay, it may be known by theſe ſigns, *viz.* he will loſe his appetite, have a dry cough, gleet at his Noſe, and have a

deadneſs in his looks; in which caſe he muſt be treated accordingly, if the Horſe be of value and worth the trial.

The other kind often begins with feveriſhneſs and loſs of appetite, but that ſymptom ſoon goes off when the tumors arrive to their maturity; for then they take to their meat, and nature often effectuates a cure, with little or no other help beſides a few feeds of ſcalded bran with ſulphur. Theſe tumors are commonly hot and ſomewhat inflamed. Sometimes they break, and ſometimes diſperſe of themſelves, without breaking; and when they break, they generally diſcharge a little hot ſcalding water, which after a day or two, digeſts and heals without turning ulcerous. This diſorder is more frequent in ſome ſeaſons than others, of which I have already taken notice, in treating of the epidemical diſtempers of Horſes.

The cure is to bleed plentifully in the beginning, then adminiſter the following drink.

Take the Leaves and Bark of Elder, of each a large handful. Chamomile-Flowers, half a handful. Juniper Berries, bruiſed, an ounce. Boil in a quart of Water to three half pints, pour off the decoction, and while it is warm, diſſolve in it four ounces of Cream of Tartar and ſix ounces of Honey.

Give one of theſe drinks every other morning, for one week, with Antimony and Gum Guaicum, of each half an ounce, once a day, in a feed of ſcalded bran, to be continued about a week or longer, if neceſſary.

The like ſymptoms will ſometimes happen at the criſis or turn of a malignant fever, of which I have known ſeveral inſtances. I have ſeen the Head ſwoln to a monſtrous ſize, and the Lips particularly, to ſuch a degree that the Horſe has been unable to take any other ſuſtenance beſides water-gruel, for ſeveral days together. Sometimes the ſwellings fall on the briſket and other dependant parts, both of the Body and Limbs; they are generally of a watry diſpoſition, and ſeldom come to any maturity; but are eaſily diſperſed with the help of proper fomentions made of Wormwood, St. Johns-wort, Chamomile-Flowers, Elder, and ſuch like, with crude Sal Armoniack, and Pearl-Aſhes, keeping the Horſe at the ſame time open with glyſters and lenitive drinks, with thoſe other things that have been preſcribed for the cure of malignant fevers. But having treated of thoſe maladies in their proper places, I ſhould not here have mentioned them, only to rectify the miſtakes of thoſe who often do much miſchief by treating ſuch ſymptoms in the manner of the farcy.

CHAP.

CHAP. X.

Of Tumors.

A Tumor is a preternatural riſing or ſwelling, on any part of the Body of a Horſe, for all parts may be ſubject to ſwellings of one kind or other, as well the Bones, Ligaments, and Sinews, as the Fleſh, Membranes, and other ſoft parts; and theſe ſwellings proceed either from an external or internal cauſe, *viz.* from Wounds, Blows, Bruiſes, and ſuch like accidents, or from fevers, which ſometimes produce critical tumors, by which the febrifick matter is caſt off, and ſometimes tumors proceed from ſome chronical diſeaſe.

All Tumors form'd by Fluxion or Congeſtion.

It may be further obſerved, that all tumors are form'd by *Fluxion* or *Congeſtion.* Thoſe by fluxion are ſuch as come ſuddenly to maturation, *viz.* where the Fibrillæ are broke, and the influx into the part haſty and violent, as in all boils and moſt critical ſwellings. Thoſe by congeſtion advance gradually, and are properly chronical, and affect the Body according to the cauſe from whence they proceed, and the habitual temperament of the Blood and Juices, during their continuance.

All Tumors reduced by the ancients to four general kinds.

The ancients have reduced all Tumors to theſe four general kinds, as proceeding from the four principal humours, which according to their analyſis, conſiſted of *blood*, *choler*, *phlegm*, and *melancholy*, *viz.* the *phlegmon* from blood, the *eryſipelas* from choler, the *œdema* from phlegm, and the *ſcirrhus* from melancholy.

The Phlegmon

The phlegmon proceeding from Blood, or more properly from a Plethora, is known by its heat, tenſion, and pulſation of the principal Artery, that conveys the Blood into the part where the Tumor is ſeated, when the Veins and other returning Veſſels are broke or obſtructed, ſo as to cauſe an accumulation, or according to the vulgar phraſe, a gathering. This kind of Tumor is the ſame we call a boil, which generally comes ſoon to maturity, and ends in ſuppuration.

The Eriſipelas.

The eriſipelas is alſo an inflam'd ſwelling, accompany'd with heat and burning, and is more ſuperficial than the phlegmon, and therefore the pulſation of the Arteries are ſeldom felt as in the other; ſometimes the greateſt part of the humour is caſt upon one part, ſometimes it ſhews itſelf on ſeveral parts of the Body at once, over the Skin, and near the Tendons of the

Muſcles

Muſcles towards the joints, with little bliſters, as happens frequently in a St. Anthony's Fire, which is an eriſipelatous diſtemper. The matter of theſe Tumors is generally thin and of an ill conſiſtence, reſembling that which proceeds from a burn or ſcald, and often of a yellowiſh hue, from obſtructions of the Liver, whereby the bile or gall being not duly ſecerned but retain'd in the Blood, gives a tincture to the matter that iſſues from the ſores, and to ſeveral of the common ſecretions, which are alſo ting'd yellow. Of this kind, is what we may obſerve ſometimes in the farcy, and other chronical diſtempers, of which I have already treated.

The Œdema.

THE œdema is a ſoft ſwelling, that yields to the preſſure of the finger, without heat, pain, inflammation, or change of colour. Under this denomination are rank'd all dropſical ſwellings, or ſuch of any kind, as are cauſed by too much humidity or flatulency. But a true œdema, uſually proceeds from a cold, pituitous Blood falling upon the Limbs, or any other part that has been previouſly weakened; and as in the human Body theſe ſwellings generally happen to aged perſons, ſo they often prove obſtinate and hard to cure. Old Horſes in like manner are ſubject to ſwellings, that ſeem to be of the œdematous kind, which ſometimes are greatly help'd by bliſtering, firing, and laxative purges.

The Scirrhus.

THE ſcirrhus is the fourth general kind of Tumor, according to the foregoing enumeration. It is a very hard ſwelling, ſometimes intire, ſmooth, and without pain, ſometimes divided into little knots and bundles, ſeated for the moſt part among the Glands and Kernels. Of this ſort the ancients reckoned all cancers, ſcrophulas, and other ſuch maladies. But theſe generals being no ways ſatisfactory, with reſpect to the great number of Tumors of different kinds that riſe on the animal body, ſome having peculiarities that render them ſuch as cannot eaſily fall under either of theſe denominations, and ſome being of a mixed kind, participating partly of one and partly of another, either by their original formation, or by ſome degeneracy from what they were at firſt; theſe being claſs'd under a few general denominations, cauſes no ſmall perplexity, and tends only to multiply names and diſtinctions. I ſhall therefore proceed to deſcribe thoſe Tumors that are the moſt uſual and frequent among Horſes, and in the manner they are beſt known in the practice of farriery. And in order to this, I ſhall begin with critical Tumors.

Of Critical Tumors.

CRITICAL Tumors are properly thoſe whereby a fever or other acute diſtemper is caſt off, and the febrifick matter is thrown out upon ſome particular part, which generally has a good tendency, when the tumor is external, and happens to be ſeated on ſome part that is ſafe; for thereby a Horſe is uſually reſtor'd to his health as ſoon as it comes to ripen. On the other hand, internal tumors generally affect the Lungs, or other principal *Viſcera*, and often prove mortal, or fall on the Joints, and ſometimes end in incurable lameneſs. For this reaſon, critical tumors on the external parts, ought for the moſt part to be promoted, and forwarded by ripening ointments and poultices, where the latter can be apply'd, and ſhould by no means be repell'd.

Critical Tumors among the Parotid Glands.

CRITICAL Tumors uſually ariſe under the Jaws, and ſometimes turn to the ſtrangles, ſometimes under the Ears, where with good management they ripen into matter, and caſt off the dregs of ſickneſs. I was imploy'd to two Horſes lately in dangerous fevers, which both terminated with critical tumors, which began among the Kernels under the Ears, and before they arrived to their ſtated ſize, ſpread a good way down the Neck; at firſt they were painful, and hindered the Horſes from ſwallowing, but by keeping them always anointed with Dialthæa, and giving the Horſes, plenty of gruel to drink, and keeping their Heads and Necks covered, they both ripen'd and diſcharg'd very large quantities of laudable matter, by which they both recovered. The one broke and opened of itſelf, the other was opened with a ſmall hot iron. The hardneſs and ſwelling of the Skin that remains after theſe tumors run off, when impoſtumated, generally ſinks in a week or ten days time, only by bathing now and then with a little Spirit of Wine firſt, and afterwards with Vinegar.

Sometimes the Poll-Evil and Fiſtula critical.

I have known fevers caſt themſelves off on the Poll, and ſometimes on the Withers, the one cauſing the poll-evil, and the other what the farriers call the fiſtula, both which prove troubleſome enough becauſe of their ſituation, the reaſon of which, with their method of cure, will be ſhewn in their proper place. Sometimes fevers terminate in critical tumors in the Groins, and cauſe very large ſwellings on the inſide of the Thigh, ſometimes ſtretching along the Sheath, and towards the Lower Belly, and break near the Cleft. When the ſwelling falls downwards, it generally forms an abſceſs between the Interſtices, a little below the Stiffle, or runs towards the Hock, where

Critical Tumors generally terminate on the hind parts of a Horſe.

where it ſeldom forms one ſingle abſceſs, but breaks in ſeveral ſmall puſtles, that without good care and judgment end in little ſcabby ulcers, and leave a thickneſs in the Joint. I have known critical ſwellings fall into the Paſtern Joint, and ſometimes into the Coffin, both which are dangerous, and therefore ought to be breath'd out if poſſible with diſcutient fomentations. The following is one of the moſt efficacious that can be in ſuch caſes.

Take Wormwood, Chamomile Flowers, and Melilot, of each a handful; Bay-Berries bruis'd, four ounces; Wood Aſhes, a few handfuls; Wood Soot, one handful; boil in a gallon of Water to near one half is waſted. Let the part be ſtop'd with woollen Cloaths wrung out ſcalding hot, and apply'd as dry and as hot as poſſible, and renewed as often as the Cloaths begin to turn cold.

HALF a pint of Spirit of Wine ſhould be added to each quart of the fomentation juſt when it is going to be uſed, which ought to be two or three times a day, applying the cloaths wrung out five or ſix times every dreſſing, leaving the laſt cloth bound round the Joint, with a dry one over it, to keep the part continually breathing.

WHEN theſe critical ſwellings fall upon the Coffin, the anguiſh often gets into the Coffin-Bone and turns it foul. It breaks firſt in little tumors round the Coronet, and then turns into a canker, or to a joint water that gathers in the Coffin Joint; but theſe accidents happen more frequently from ſtrains or violent bruiſes than from ſickneſs; but when they proceed from fevers, or from age, or a bad habit of body, they are perhaps worſe in their conſequences, than from any other cauſe, producing cankers, joint-water, and a caries in the Bones. See ulcers.

Of Swellings cauſed by Blows, Bruiſes, and other external Accidents.

EVERY one muſt needs be ſenſible that a blow or bruiſe, by whatever accident it happens will cauſe a ſwelling, either in a larger or more remiſs degree, and the ſwellings cauſed by external accidents are more or leſs dangerous according to their degrees of violence, and according as the aggrieved part or member happens to be more or leſs able to bear the hurt and impreſſion.

Blows on the Head ſometimes bring Horſes into convulſive diſorders, and prove mortal, of which I have known ſome few inſtances, and hurts and bruiſes on the Joints ſometimes cauſe incurable lameneſs. Blows and bruiſes of the fleſhy parts often produce very large ſwellings, and when many of the ſmall Fibrillæ are broke end in impoſtumation; but this is ſeldom dangerous. Horſes are frequently hurt with bad ſaddles, which ſometimes brings ſwellings that are troubleſome; alſo by kicks, and by the biting of other Horſes, who often make their attacks on the Neck, Back, and Withers, and ſometimes the Shoulder and Haunches. I have ſeen Horſes ſo much mauled and bruiſed with the Teeth of other Horſes, that the Neck, Withers, and Shoulders have been blown up to a prodigious ſize, and when the ſwelling ſubſided the *Cuticula* has come off like burnt leather, and its thickneſs equal to the uſual dimenſions of the ſkin. Sometimes Horſes are alſo very much bruiſed and hurt by getting over their bales, and their Limbs and other parts very much ſwelled by ſuch accidents, and often the hair rubbed off with rawneſs and excoriation; and frequently Horſes get themſelves intangled in their collar reins, or with their halters; all which and many other ſuch accidents cauſe ſwellings, and ſome of them to ſuch a degree as to produce a ſymptomatick fever.

One general intention in the method of cure neceſſary.

But as we ſuppoſe in all ſuch caſes that the Blood is no ways affected, therefore one general intention in the method of cure is only neceſſary, and that is by coolers and repellers, ſuch as red or white Vinegar, old Verjuice or compoſitions made with Alum, Vitriol, and the like; which ſhould be applied frequently to the ſwelling, till the heat and inflammation is abated. In all theſe caſes the pain draws a ſudden influx of the Blood and Juices into the aggrieved part, which raiſes a tumor; and unleſs the Fibrillæ happen to be much broke and torn aſſunder, ſo as to cauſe an extravaſation of the Blood and its ſeroſities, the cure may be eaſily affected, by applying any of the coolers abovementioned, which are not only uſeful on account of their coldneſs, but by reaſon of their roughneſs and aſperity, whereby they conſtringe the Fibres, and in that reſpect act like a bandage or any thing elſe that makes a gentle compreſſion, and thereby not only reſiſts a further influx, but forwards the impacted Juices into their proper receptacles.

The effect of coolers and repellers.

Take a pint of Vinegar, and mix with it a peice of Bole, the bigneſs of a Walnut, ſhake them together,

This

This is as proper as any thing to bath a ſwelling that comes by a bruiſe or any other common accident. The ſurgeons mix water with the Vinegar, which is their oxycrate, perhaps the better to incorporate the Bole with the mixture; but the Fibres of a Horſe are ſo rigid, that they require the Vinegar in its full ſtrength. I find alſo from experience, that good Vinegar is preferable to Verjuice, unleſs it be extremely old, and at the ſame time has no ways loſt its acid; becauſe the Vinegar being for the moſt part thinner, and not altogether ſo viſcid as the Verjuice, penetrates and enters the part to which it is applied more eaſily, and therefore often proves more efficacious; and in ſome caſes diſtilled Vinegar or Vinegar mixed with a ſmall portion of Spirit of Vitriol, is to be preferred where ſtronger acids and more intenſe coolers are required. A cold charge is alſo a very proper application in intentions of this kind, eſpecially to the Back, Withers, and other parts when they have been bruiſed with the ſaddle. This is made of Vinegar, Bole, and the Whites of Eggs to the conſiſtence of a poultice, and ſpread over the aggrieved part. A cold charge is alſo proper to be laid to ſwellings of the Joints, or any where on the Limbs when they proceed from ſtrains, bruiſes, and other ſuch accidents; but requires to be oftener renewed than what is generally done, being apt to turn dry in a littte time, eſpecially while the heat and inflammation continues, or while there is any anguiſh left, and after this a conſtant uſe of Bole and Vinegar will in moſt caſes effect a cure where the Blood is no ways faulty, and that there happens to be no concomitant ſymptoms that require the aid and aſſiſtance of other applications, as in caſes where the Fibrillæ are much broke and the ſeroſities or grumes of Blood are lodged under the ſkin, wherein proper fomentations may be of great ſervice to thin the juices and fit them for tranſpiration; or bathing the part often with a mixture of two ounces of crude Sal Armoniack, boiled in a quart of Chamber-lye, and made warm every time it is applied. But when theſe juices happen to be extravaſated and lodged among the Fibres under the *Cuticula*, or lie deeper and form little Abſceſſes, the matter may be let out by gentle ſcarrifications, tho' I have known it uſually make its way without any operation; for the teguments above it being naturally thin, rot and come off in fleaks and ſcabs. This happens frequently to Horſes that have been bit about the Neck and Shoulders by other Horſes, which bites are generally attended with contuſions, pain and ſtiffneſs, till the corrupted ſeroſities are diſcharged; and when once that is done, there needs nothing more than to anoint the ſcabs and ſhrivelled ſkin, with ſome ſoftning lina-

In ſome caſes Vinegar preferable to Verjuice.

A cold charge uſual in ſuch caſes.

Proper fomentions often neceſſary.

ment made of Oil, Bees-wax, and Parmaſitty, or with Linſeed Oil, which is equal to any other in all ſuch caſes.

THESE methods here laid down, being the moſt proper to be followed, in the cure of all tumors that proceed from blows and other ſuch accidents, which are in common to Horſes and other quadrupedes, I ſhall now proceed to thoſe that are more peculiar, and are diſtinguiſhed by their peculiar names and appellations.

Of a Bone Spavin.

A BONE ſpavin is a hard ſwelling on the inſide of the Hock, and is ſo called, not only becauſe it reſembles a bone in hardneſs, but to diſtinguiſh it from a blood ſpavin, which is ſoft, and is alſo ſeated in the Hock.

The nature of a *Bone Spavin.*

BUT, in order to underſtand the true nature of this malady, it will be neceſſary to remember what has been already taken notice of in the anatomical part, *viz.* that the two ranges of ſmall bones in the upper part of the Inſtep and lower part of the Hock, where the ſpavin is ſeated, are united and received into one another, and are placed in ſuch a manner as to prevent a diſlocation of that Joint, which without them would eaſily happen, and likewiſe to facilitate and give a ſpring to the motion of the Hock. In young Horſes, and almoſt all other young quadrupeds, they are in a great degree cartilaginous, moiſt, and pliable, which is neceſſary to quick and vigorous action, to which all young Horſes are diſpoſed by nature. In old Horſes theſe little bones grow more hard and ſolid, and are joined almoſt in one, and in a manner make a part of the Inſtep and its *Apiphiſis*, inſomuch that in ſome it is difficult to ſeparate them aſunder, which is the cauſe why old Horſes always grow ſtiff in their Joints. The cement by which they are united, is a mucilage not unlike glew, which condenſes and faſtens them very faſt together. When this happens to be redundant and overflow, from whatever cauſe or accident it proceeds, it then forms a ſwelling under the Skin and Membranes of the Hock, and ſometimes the broad Ligament that covers theſe ſmall bones being ſoaked with too much moiſture, protrudes and riſes into a ſwelling, which ſoon condenſes and forms a tumor, which at firſt is no other than a hardened glew, but by length of time grows like the callous of a fractured bone, reſembling a piece of flint, without any viſible pores or interſtices, except the Foramina or little holes for the paſſage of nerves and blood-veſſels ſuch as are to be found in all other bones that compoſe the ſkeleton.

FROM hence it will appear manifeſt, that a bone ſpavin takes its beginning and growth from the matter that nouriſhes the Bones and Ligaments of the Hock, and generally happens to young Horſes that have been uſed too roughly before they are arrived to their full ſtrength, forcing them to leaps that are too high, or putting them too much upon their Haunches, which relaxes the Ligaments and Membranes, and enfeebles all the Junctures of the Hock. Sometimes ſpavins are thought to proceed from natural weakneſs, and ſo to be hereditary, ſome Horſes being more ſubject to ſuch maladies than others, and put out ſpavins even where there has been no violence or ill-uſage; ſometimes ſpavins put out after ſickneſs, eſpecially in diſtempers that affect the Limbs; and ſometimes ſpavins proceed from blows and other accidents ill-managed, or whatever elſe may cauſe too great a derivation of humidity and moiſture upon the part, as lying too long at graſs, or feeding too much with hot meat, or any other foggy moiſt diet; want of ſufficient exerciſe, or on the contrary too violent or ill-timed exerciſe. All theſe things may produce ſpavins, ſplents, and other excreſcences upon the Bones or Joints. The uſual cauſes of a bone ſpavin.

A ſpavin that begins on the lower part of the Hock, is not ſo dangerous as that which puts out higher between the two round Proceſſes of the Leg-bone; and a ſpavin near the edge is not ſo bad as that which is more inward towards the middle, as it does not ſo much affect the bending of the Hock. It may alſo be obſerved, that a ſpavin that comes by any common accident, as a kick or a blow, is at firſt no true ſpavin, but a contuſion, and therefore is not ſo dangerous as when it proceeds from a natural cauſe; neither are ſpavins that put out on Colts and young Horſes ſo bad as thoſe that happen to Horſes in their full ſtrength and maturity; and in very old Horſes they are ſeldom curable, being the effect either of ſome violent diſtortion of the ſmall Bones abovementioned, or of ſome very ill habit of Body. The prognoſticks.

THE uſual method of curing a bone ſpavin is by bliſters and firing, without any regard to the ſituation or cauſe from whence it proceeds. If a fullneſs on the fore-part of the Hock comes upon hard riding, or any other violence, threatning a ſpavin; in that caſe, coolers and repellers are only proper, *viz.* a cold charge bound round the part, and renewed ſeveral times a day, with the other method above preſcribed in bruiſes and contuſions; but if the ſwelling be owing to other cauſes, it ſhould be treated accordingly. Spavins that happen to Colts and young Horſes, are generally external and ſuperficial, and may be cured with milder applications than what are commonly made uſe of for their removal, and with leſs danger of breeding. The cure.

breeding callosities in the Joints; for it is better to wear out these maladies by degrees, than to strive to conquer them all at once.

The blisters or caustick commonly used to take off spavins, are made with Euphorbium, Arsenick, or corrosive Sublimate, in the following manner, *viz.* Hog's Lard and Train Oil, of each an ounce; Bees-wax, two ounces; Honey and Nerve-Ointment, of each two ounces: These being melted, and the mixture almost cold, they add half an ounce of Sublimate Corrosive, and two drams of Euphorbium in fine powder. A sufficient quantity of this is spread on the part pretty thick, sometimes succeeds when it digests and runs. I have seen many recipes of this kind that have been tried with various success, but for the most part they leave a continual baldness, and often a remaining stiffness, which can never be removed. Some make their blistering ointments after this manner, *viz.* Ointment or Oil of Bays, and Nerve-Ointment, of each an ounce; Spanish Flies in powder, about a dram; Sublimate, two drams. Others use Euphorbium alone without the Sublimate; but that is not so well, for the Euphorbium is of a caustick nature, but seldom enters further than to harden into a scab or thick scurf, without coming to digeston, and therefore often causes much pain, heat, and anguish, and by that means derives a flux of humours upon the Hock, so as even to affect the nervous parts, which ought to be avoided. Some mix Butter of Antimony with their blisters, others only clip off the hair, rub the spavin till it is almost raw, and then lay on a plaister with Pitch and Sublimate, or Arsenick, and let it lie on till it fall off, when it brings along with it a thick slough, but seldom with any good effect. Many of these things, and such like, I have known tried to take off spavins, but never found them succeed so well as the following, only that it must be often repeated, and so requires a good deal of time before the cure is complete and perfect.

Take Nerve-Ointment and Ointment of Marshmallows, of each two ounces; Quicksilver, an ounce; the Quicksilver must be rubbed in a mortar, with an ounce or an ounce and an half of Venice Turpentine till it is of a lead colour, and that none of the globules appear. Then mix it with the other, and when these are well incorporated, add a dram and an half of Cantharides, made into fine powder; one dram of Sublimate, and two drams of Oil of Origanum.

The Cantharides must be fresh, not of a yellow or brown colour, nor of a foetid stinking smell, for if they be corrupted and rotten, they lose their

their efficacy. The hair is to be cut as cloſe as poſſible, and then the ointment or retoire applied pretty thick over the part; this ſhould be done in the morning, and the Horſe kept tied up all day without any litter under him till night, only ſo much as will encourage him to ſtale, if it be his cuſtom to ſtale upon his litter; at night he may be untied, that he may lie down as uſual, for by that time the bliſter will begin to take effect; and a plaiſter of pitch may be laid over it, or any other ſticking plaiſter bound on gently with a piece of broad tape or liſt.

After the bliſter has done running, and the ſcabs begin to dry and peel off, it may be applied a ſecond time in the ſame manner as before. The ſecond application generally takes much greater effect than the firſt, and ſometimes in Colts and young Horſes makes a perfect cure; but when the ſpavin has been of ſome ſtanding, it will require to be renewed, perhaps five or ſix times, only that after the ſecond application, a greater diſtance of time muſt be allowed, otherwiſe it might leave a ſcar or cauſe a baldneſs; and to avoid this, and to prevent a remaining ſtiffneſs, I uſually cauſe a freſh application to be made once in a fortnight or in three weeks, which always has a good effect, eſpecially upon young Horſes that abound much more with moiſture about their Joints than thoſe that are old. I have continued bliſtering in this manner ſix or ſeven times, without the leaſt blemiſh, and have ſeldom been diſappointed of ſucceſs. The Horſes have conſtantly had their exerciſe in a moderate degree between whiles, and ſometimes mild purging phyſick, and diureticks at proper intervals, and afterwards Guaicum boiled and mixed with their water, the better to promote perſpiration, and to dry up ſuperfluous humidity, which I conceive to be a help in all caſes proceeding from viſcid juices and relaxed habits. And in ſuch caſes I likewiſe keep them from the uſe of moiſt diet, except when they take purges, and then I allow them but ſmall feeds of ſcalded bran, their commom diet being only oats with the drieſt and ſweeteſt hay that can be got; for a moiſt diet, long continued, relaxes the whole habit, and muſt therefore be improper, if not prejudicial in all ſuch caſes.

Spavins in old Horſes ſometimes obſtinate.

But the ſpavins that put out on older or full-aged Horſes are apt to be more obſtinate, being the effect of ſome ill habit of body, but chiefly of hurts and ſtrains, whereby the ſmall Bones of the Hock are jarred and looſened; for this ſort is always ſeated more inward than that above deſcribed, which riſes more ſuperficial and flat; and therefore, when the ſpavin puts out towards the hollow and riſes upwards, it proves obſtinate, and hard to cure; and if it run inwards among the ſinuoſities of the Joint, it is for the moſt part, incurable, becauſe it lies then very much out

When ſpavins are like to prove incurable.

of.

of the reach of applications. In an outward ſuperficial ſpavin, the Horſe only goes ſtiff at firſt, and the ſpavin ſoon appears plain and viſible to the eye; but in the other, a Horſe ſometimes goes lame a conſiderable time before the ſpavin ſhews itſelf, and ſo paſſes only for humours. I have known Horſes in theſe circumſtances purged and oiled both in the Hock and Stiffle, till a ſpavin has been diſcovered deeply ſituated, and extremely hard.

This caſe is both difficult and uncertain, not only becauſe of its ſituation among the ſinuoſities of the Joint, but becauſe it is, for the moſt part, condenſed to an obſtinate hardneſs and inſenſibility, before it grows ſo much outward as to be diſcovered. The uſual way in ſuch caſes is to fire directly, or to uſe the ſtrongeſt kind of cauſtick bliſters, and ſometimes to fire and lay the bliſter immediately over the part; but this method ſeldom ſucceeds ſo far as not to leave both a blemiſh and a continual ſtiffneſs behind it, though indeed it may put a ſtop to any further growth of the ſpavin, and the Horſe, notwithſtanding the ſtiffneſs, may be uſeful in ſeveral buſineſſes. I ſhould therefore firſt of all chuſe to try a more gentle method, becauſe Horſes are often worſe after the uſe of forcible means to remove ſpavins than they were before, which breeds ſuch a diſpoſition in the part, as ſcarce leaves room for any further trial, it being difficult to keep a juſt medium where ſuch powerful applications are made; for though the Bones, and all bony excreſſences are of themſelves inſenſible, and without pain, except when they turn carious, yet whoever conſiders the many tendinous and nervous ſubſtances about the Joints, will eaſily be convinced, that pain and anguiſh muſt be unavoidable when theſe are touched with fiery and cauſtick applications; and we ſee daily inſtances how eaſily theſe ſenſible parts are hurt, even from the moſt trifling accidents. And therefore, if the owner can be perſuaded to allow ſufficient time, the beſt and ſafeſt way is to make trial of ſome mild cauſtick or bliſter, ſuch as the bliſtering ointment above inſerted. The firſt application will probably prevent the increaſe of the ſpavin, and the continuing it, according to the preſcribed method, will ſometimes cauſe a diſſolution of the hardneſs, and ſo wear it out inſenſibly by degrees; of this I have had inſtances in my own practice; the bliſtering at times was continued ſeveral months; the Horſes were alſo made uſe of in the intervals to all common buſineſs, except hunting or other very laborious exerciſe; ſo that they were not altogether a charge and burden to the owners. A very fine Horſe belonging to an officer of diſtinction in the army, was cured of a large ſpavin by this method, even after he had been fired, and the part rendered extremely hard and callous,

for

for the ſpace of two years or upwards, and when he recovered his lameneſs, I cauſed him to be fired again, very gently, all over the Hock, but in ſuch a manner as to leave little or no ſcar or disfigurement; I took this method to ſecure him, being a managed Horſe, and having a natural diſpoſition to go upon his Haunches, which tries the Hocks and Paſterns more than any other action.

However, ſome ſpavins lie ſo deep and run ſo far into the hollow of the joint that no applications can reach them, ſo as to make a perfect cure, and ſometimes Horſes have been rendered altogether uſeleſs by the attempts that have been made to remove them. A charge or cauſtick ointment, with Sublimate or Arſenick, is the moſt likely to ſucceed in this caſe, if it be uſed with proper cautions; becauſe theſe things will act forcibly, ſo as to enter deep and make a very large diſcharge, and by that means deſtroy a great part of the ſubſtance, and perhaps cauſe the remainder to diſſolve and run off. I have known ſome bold ignorant fellows ſucceed in ſuch caſes, tho' more by accident than from a ſound judgment. The ſame thing has been done by firing deep into the ſpavin, whereof I ſhall relate a very extraordinary inſtance in my own practice, of a very fine Horſe belonging to a nobleman, who ſet the higheſt value upon him on account of his beauty and goodneſs; but having with exceſſive hunting put out a ſpavin that was ſeated extremely deep in the hock, and being left wholly to my option to do what I would with him, I firſt applied a very ſtrong cauſtick, which brought off a thick ſlough, and made the ſwelling flattiſh at top, but without any diſcharge beſides a little moiſture, which ſoon dried up and healed; and not caring to venture further with the cauſtick, for fear of hurting the tendons and ligaments, I judged it would be ſafer to fire, becauſe an inſtrument is under the guidance of the hand, whereas a cauſtick may ſometimes either diſappoint us, by failing in what we intend from it, or deceive us by going further than we could wiſh. The irons for this operation were made in the ſhape of a fleam, that they might go deep into the ſubſtance of the ſpavin, only they were not pointed as a fleam, but rounded on the face, and made thick towards the back, that they might retain the heat. In this operation ſome ſmall Blood-veſſels were cut through, which could not be avoided, and cauſed a pretty large effuſion of Blood, till it was ſtopped with a ſtyptick. The wound was about half an inch deep, and an inch in length, with two or thee ſhort ſtrokes or lines on each ſide. It was kept with a dreſſing of dry tow till the third day, that the bleeding might be fully ſtopped; nothing was diſcharged for ſeveral days but a gleet of viſcid water; during which time he was in great pain,

Sometimes bold attempts ſucceed in the cure of obſtinate ſpavins.

An inſtance of a very fine Horſe cured.

and his Hock ſwelled very much, which ſymptom was removed with fomentations, ſuch as are recommended for punctured wounds. The firſt dreſſings were only Turpentine ſpread on tow, afterwards mixed with Precipitate finely ground, *viz.* two drams to an ounce of the Turpentine. It continued a plentiful diſcharge of a thin glutinous matter, for about two months before the ſkin began to cloſe and cover the wound, when the matter came to be of a good colour and conſiſtence, and leſſened every day in quantity. The Horſe began to move his Hock very nimbly, and to go a little beyond walking exerciſe. So much of the Precipitate as could enter into the nervous parts of the Hock, was certainly a very great benefit, and contributed to a perfect cure, as it kept the wound always clean and the joints fine. In the ſpace of three months the ſore was quite healed up and covered with hair, except about the bigneſs of a farthing, over which I cauſed a defenſive plaiſter to be laid. He was purged during the time of his cure, and in four months he went through all his exerciſes, and hunted the firſt ſeaſon, and every ſeaſon afterwards, perfectly free from all lameneſs.

Diſtortions of the ſmall bones of the Hock ſometimes miſtaken for ſpavins.

But when an old Horſe happens to put out a ſpavin, it is commonly the effect of ſome violent wrench or ſtrain of the hock, and for the moſt part proves incurable, eſpecially if the ſmall bones be any ways jarred or diſplaced, which ſometimes happens; and when it is ſo, the ſwelling generally appears on the middle and fore-part of the Hock, and not towards the ſide of the Hock, as almoſt all ſpavins do. The Horſe is always extremely ſtiff and ſcarce able to move; but this is properly a luxation, and not a ſpavin, as has been obſerved already. And therefore if any thing be done to remedy this malady, it muſt be to force the bone into its place; to fill up the fore-part of the Hock with tow, and the cavities on each ſide, and all the other cavities and vacant ſpaces ſhould likewiſe be filled with the ſame; applying a piece of paſte-board ſoaked in Vinegar on the inſide over the diſtortion, binding the whole with a roller or a piece of broad ſoft liſt, and the Horſe ſhould not be put upon exerciſe for a conſiderable time. But when Horſes meet with ſuch unlucky accidents, they are ſeldom fit for any thing afterwards but to draw in ſome light eaſy carriage. A true ſpavin in an old Horſe proves no leſs difficult; and in ſuch caſes, firing all round the Hock, and afterwards turning them out to graſs, is the moſt likely to ſucceed, ſo far at leaſt as to fit them for ſome ſort of buſineſs; though the ſtiffneſs of the Hock will be but little abated, even if the ſpavin be removed, ſtiffneſs and bending of the Joints being an infirmity to which

all

all old Horſes are more or leſs ſubject, even where there is no manifeſt malady or diſeaſe.

Of a Curb.

AS a ſpavin riſes among bones on the fore-part of the Hock, ſo a curb takes its origin from the junctures of the ſame bones, and riſes on the hind-part, forming a pretty large tumor from below the *Capellet* or Heel of the Hock, and running a good way along the back-part of the Hind-Leg, covering the *Apiphyſis* of the Inſtep Bone, and in ſome gummy Horſes ſpreading itſelf on both ſides the Leg, attended with ſtiffneſs, and ſometimes with pain and lameneſs. A curb deſcribed.

A curb proceeds from the ſame cauſes that produce ſpavins, *viz.* hard riding, ſtrains, and other ſuch like accidents, eſpecially from blows, and frequently from kicks of other Horſes; all which bring on curbs when they are neglected and not taken care of in time. Sometimes a curb riſes where no hurt or accident has happened, even when a Horſe has ſtood ſtill in the ſtable doing nothing, and ſometimes when running abroad at graſs, and then it is generally the effect of a viſcid ſizy Blood; which kind of temperament is apt to derive too great an accumulation of ſeroſities upon the Joints; and therefore young Horſes that have very large Joints, eſpecially thoſe of the heavy breed, are the moſt ſubject of all others to curbs and other cold pituitous ſwellings; and of the ſaddle-breed, ſuch as are ſomewhat arched in their Hind-Legs, and have naturally a little ridge or riſing below the Heel or point of the Hock. Sometimes a curb appears on one Leg only, and ſometimes on both, in the ſame manner as the ſpavin; but there is ſeldom any danger of a continued lameneſs from curbs. The cauſes of curbs. The heavy breed moſt ſubject to them.

THE cure is eaſy, and may be done with bliſtering alone, tho' it may be neceſſary in ſome to fire and bliſter both. I have cured many with the mild bliſtering ointment preſcribed for the ſpavin, and ſometimes with one or two applications, and without the leaſt ſear or loſs of hair; but if the curb be grown exceſſive hard and obſtinate by long continuance, the quickeſt and ſureſt way is to fire with a thin iron, making a line down the middle from top to bottom, and drawing ſeveral lines in a penniform manner, like a feather on each ſide, pretty deep, applying a little mild bliſter over the part, and when it has done running, a charge of the *Ad Herniam* or rupture plaiſter, which may be had at any apothecary's. This method will The Cure.

Purging ſometimes neceſſary after the cure of a curb.

utterly remove the curb. Purging is alſo neceſſary after the cure, eſpecially in groſs bodied Horſes that are full of Blood, and ſometimes diureticks, ſuch as are preſcribed for ſwelled Legs.

Solleyſell takes notice of another ſwelling on the outſide of the Hock, which he calls a jardon; he ſays it cauſes a Horſe to go ſtiff and lame, and that it proves ſometimes of evil conſequence. I have ſeen many of theſe ſwellings, but ſeldom any of them attended with much lameneſs, for they commonly proceed from blows or kicks of other Horſes, and ſuch like accidents; and unleſs they are at firſt neglected, or ſome little proceſs of a bone be broke, which may by chance happen, they are no ways dangerous, becauſe they do not much affect the motion of the Joint, and at firſt, may for the moſt part be cured with coolers and repellers, ſuch as Vinegar or Verjuice often applied. However, any ſwelling on a part ſo prominent as the Hock, is always a great eye-ſore; and if it continues hard and inſenſible, the beſt way is to bliſter or fire. I have cured many Horſes with mild bliſters alone, and in ſome obſtinate caſes have cauſed them to be fired, and can hardly remember any one inſtance where a cure has not been performed by one or other of theſe means.

Of a Ring-Bone.

THIS is a hard ſwelling on the lower part of the Paſtern, which generally reaches half way round the fore-part thereof, and reſembles a ring, from whence it is called a ring-bone.

The ring-bone has an affinity with the bone ſpavin.

A ring-bone has an affinity to a bone ſpavin, and for the moſt part proceeds from the ſame cauſes; for as a bone ſpavin generally riſes from the junctures of the ſmall bones of the Hock, and derives its nouriſhment from the ſame ſupplies of matter by which theſe are conjoined, ſo the ring-bone for the moſt part takes its origin from the juncture of the great and little Paſtern-bones, being laid together only by a kind of appoſition, having but a ſlender articulation, and with the ſame kind of cement and in the ſame manner in which all other bones that are not ſuited to various motions become united. And this mechaniſm not only preſerves the Paſtern from being ſo eaſily broke as might frequently happen if it was all of one continued bone, but gives a ſpring to the motion of a Horſe's Hind-Feet, as the ſmall bones of the Hock give a ſpring to the motions of the Leg, which has been already obſerved, both in the account of a bone ſpavin and in the anatomical part, to be neceſſary in all their goings; and

therefore

therefore a ring-bone always cauſes a ſtiffneſs in the motion of the Paſtern and Foot, and when it grows large and hard, cauſes lameneſs, eſpecially when it falls downwards towards the Coffin Joint.

It has been already obſerved that a ring-bone proceeds from many of the ſame cauſes that produce ſpavins, and is nouriſhed by the ſame kind of matter. The external cauſe of a ring-bone is often from ſtrains in the Paſtern, or hard riding on dry roads, or when the Paſtern has been jarred or wrung in deep clay roads, either in travelling, or at graſs in potchy clay grounds. Theſe things uſually produce ring-bones. Some Horſes are naturally ſubject to ring-bones, eſpecially thoſe that are groſs and bony about their Legs and Paſterns; for theſe ſometimes put out Ring-bones naturally with other hard excreſſences; and therefore when a fine limbed Horſe happens to have a ring-bone, we may conclude it to proceed from ſome accident rather than from any natural fault, *viz.* from ſome violent ſtrain, ſhakling an unruly Horſe, or if it be behind, by putting young Horſes too early upon their Haunches in the riding-ſchools, for in that attitude a Horſe throws his whole weight, as much, if not more, upon his Paſterns than upon his Hocks. The cauſe of ring-bones.

When a ring-Bone comes by any accident upon a clean limb'd Horſe, it is ſeldom ſo dangerous as when it happens to Horſes that are groſs about their Paſterns, that have large Bones, and are fleſhy in thoſe parts, for when the ſwelling is removed, the ſtiffneſs often remains. A ring-bone is always eaſier cured when it appears diſtinct round the Paſtern, than when it ſpreads downwards towards the Coronet, for then it is apt to affect the Coffin Joint, if it does not derive its origin from ſome ſtrain or defect in that joint originally, in which caſe the cure will be dubious and uncertain, and ſometimes impracticable, when a calloſity is found under the round Ligament that covers that Joint, and even when it happens more external; it proves alſo dangerous when it unites with, or ſpreads the ligamentous ſubſtance that joins the Hoof to the Fleſh; it is apt to turn to a quittor, and in the end to form an ulcer under the Hoof. The Prognoſticks.

A ring-bone that riſes on the Paſtern is eaſily cured, when it does not run downwards towards the Coronet. I have known the ring-bones that ſometimes appear on Colts and young Horſes, inſenſibly wear off of themſelves without the help of any application; but when the ſubſtance remains, there needs no other remedy beſides bliſtering, unleſs when by long continuance it is grown to a very obſtinate hardneſs, and then it may require both bliſtering and firing. If the ſwelling proceeds only from the Tendons and nervous Parts, which ſometimes is not eaſy to be diſtinguiſhed from a true

ring-

ring-bone, except only that a true ring-bone is leſs painful, unleſs it proceed from the Coffin Joint. In this caſe blitering alone almoſt always proves ſucceſsful, and I have had many Horſes cured by the mild bliſter above preſcrib'd, without any other apparatus beſides renewing it two or three times, or according to the urgency of the ſymptoms, and if along with the ring-bone the Legs have a diſpoſition to ſwell, I order ſome few purges to be given, and ſometimes diuretick drinks. But in a true ring-bone, where the ſubſtance is hard like a piece of flint, and altogether inſenſible and without pain, firing is the only thing to remove it. And the reaſon why ſome are ſo apt to miſcarry in firing, is becauſe they draw their lines too ſparce, almoſt an inch diſtance between them, which always leaves the part full of ugly ſcars, and only divides the ſwelling, which before was one continued ſubſtance, into a great many leſſer ones, without removing the ſtiffneſs or lameneſs that attends it. The only way therefore to fire a ring-bone ſucceſsfully, is to perform the operation with a thinner inſtrument than what is common, and to make the lines or raſes not above a quarter of an inch diſtant, and croſſing them obliquely ſomewhat like a chain, applying a mild bliſter over all, and when that is quite dried up, and before the hair is grown, lay on the following charge.

Firing the only method to remove a true ring-bone.

Take Ad Herniam, or Rupture Plaiſter, eight ounces; Yellow Roſin, and Bees Wax, of each three ounces; melt them together, and make a charge to be ſpread over the Paſtern Joint, covering the whole with Flokes, or with the ſtuffings of an old ſaddle, which is as good as any thing for this purpoſe.

When the Ad Herniam plaiſter is grown hard with age, a little oil may be added in melting, leaſt the charge ſhould be too brittle, and ſo crumble off. And as ſoon as the Horſe has reſted two or three days in the Houſe, and the charge ſettled to the part, the beſt way will be to turn him to graſs, that he may run abroad at his eaſe, in ſome dry ſmooth paſture; and if in winter, where he may have a covered place to go into, for wet deep ground is hurtful in all ſuch caſes, eſpecially when a Horſe has been but newly fired. But where there is no conveniency for graſs, or if the owner has immediate uſe for him, he may be worked moderately after he has been fired three or four weeks, provided he be kept as much as poſſible out of the wet, till the part has gathered ſufficient ſtrength, and that the ſwelling is in a great meaſure gone.

The ſame method is to be followed when the ring-bone falls towards the coronet or the Coffin Joint. For the lower end of the Paſtern Bone being naturally ſpungy and porous, is apt to produce ſuch ſwellings, eſpecially in ſome conſtitutions, which ſwellings cannot be ſo readily repreſſed and taken down by any other method as by firing and cauſtick applications, which may be made all over the coronet without any danger, by a careful management of ſuch things. The ſame charge being applied after bliſtering and firing, as before directed, will contribute greatly to give ſtrength and firmneſs, and prevent the humours from ſettling any more upon the part, and the other ill conſequences which have already been mentioned, ſuch as quittors and ulcerations under the hoof. Some to prevent theſe accidents pull out the ſole, but this ſeldom ſucceeds in a ring-bone to any good purpoſe; for the drawing of the ſole makes but a ſmall diſcharge, and will do ſervice where there are ulcerations any where about the Coronet or Foot; but ſeldom or never in the caſe of horny or bony excreſſences, which can never yield ſo well to any method as to that already laid down, which I have always found from experience to be both the moſt certain and expeditious.

The drawing of the ſole ſeldom ſucceſsful in ring-bones.

Of Splents.

THESE are hard excreſſences that grow out on the ſhank bone. They are of various ſhapes and of different ſizes, ſome being large and ſome ſmall, ſome being long and ridg'd, others round. When a ſingle ſplent riſes on one ſide of the bone, and another oppoſite to it on the other ſide, it is called a thorough ſplent, or when the ſwelling lies on the hind-part of the bone between it and the back-ſinew, it obtains the ſame name, becauſe it is fixed there like a wedge, and generally reaches acroſs from ſide to ſide.

The nature and cauſe of ſplents.

Some Horſes are by nature more ſubject to ſplents than others, and young Horſes are moſt ſubject to ſuch infirmities while their joints and limbs are relaxed with viſcid and mucilaginous juices. For few Horſes put out ſplents after they are ſeven or eight years old, unleſs it be owing to ſickneſs or ſome accident; and indeed kicks and blows on the bony part of the Legs, either before or behind, will ſometimes turn to hard excreſcences participating of the nature of a ſplent; for theſe bones being open and porous at both their extremities, when the matter that nouriſhes them is extravaſated, it will eaſily condenſe and harden, ſo as to produce infirmities of this kind.

What Horſes moſt ſubject to ſplents.

Those ſplents that appear on the Legs of Colts and young Horſes often wear off and diſappear of themſelves, without the uſe of any means, when the matter is not ſo far condenſed; but it may be returned again into the refluent Blood in the courſe of circulation, eſpecially as the nervous parts, which in young Horſes are of a lax diſpoſition, grow more firm as they advance in maturity and acquire a better tone; but when a ſplent has been of ſome continuance, grown very hard, and the ſkin altogether looſe over it, it is a ſign the ſubſtance is quite oſſified, and then it will be almoſt in vain to meddle with it. When the excreſcences happen on the Hind-Legs, which is but ſeldom, they are little regarded, unleſs they are ſituated near the Joints, of which kind is the bone ſpavin already treated of; for all theſe things have one original and univerſal cauſe, and are chiefly diſtinguiſhed by their ſituation. A ſplent that riſes near the middle of the ſhank-bone, or tho' it be higher, unleſs it be near the bending of the knee, it is no ways dangerous ſo as to cauſe lameneſs. Thoſe that riſe on the back-part of the ſhank-bone when they grow large and preſs againſt the back-ſinew, always cauſe lameneſs or ſtiffneſs in travelling by rubbing againſt that ſinew; and thoſe that riſe low near the Paſtern Joint, ſometimes alſo endanger lameneſs, but theſe ſeldom happen, unleſs they are cauſed by ſome accident; for moſt ſplents put out from the upper *Apiphyſis* of the ſhank-bone, at a pretty good diſtance from the knee, ſometimes on the outſide, ſometimes on the inſide, and ſometimes on the front or ſpine of the bone, but in a manner that no ways affect the motions of the knee.

Few ſplents cauſe lameneſs unleſs they participate with the joint.

As to the cure of ſplents there are many methods preſcribed, and there are many pretend to it, whom I have ſeen often diſappointed; tho' I think the beſt way is not to meddle with them, unleſs they happen to be ſo large as to diſfigure a Horſe very much, or when they are ſo ſituated as to endanger a Horſe's going lame. I have known ſome fine uſeful Horſes that have had ſeveral ſplents on both their Fore-Legs, and ſome unevenneſſes on their Hind-Legs, that were never tampered with becauſe they never went lame; for thoſe who are the leaſt acquainted with ſuch things, are always apt to be the moſt buſied with them, and the moſt ſolicitous to have them removed. The uſual way is to rub the ſplent with a round ſtick, or the handle of a hammer, till it is almoſt raw, and then touch it with Oil of Origanum. Some uſe Oil of Vitriol, ſome Tincture of Cantharides. Others lay on a plaiſter of pitch, with a little Sublimate or Arſenick, to deſtroy the ſubſtance; all which methods have ſometimes ſucceeded, only that they are apt to leave a ſcar with the loſs of hair, and therefore the Tincture of Cantharides is the moſt harmleſs, but in many

The cure of ſplents.

caſes

caſes too weak to remove ſplents. And I have obſerved thoſe applications that are of a more cauſtick nature, often do more hurt than good, eſpecially when the ſplent has grown very hard and flinty, by producing a kind of Caries, which I have known ſometimes keep running ſeveral months before the ulcer created by this management could be healed, and then with an ugly ſcar, and little or no diminution of the ſplent.

When ſplents are new and only beginning to appear, the beſt way is to bath all the ſmall of the Leg with vinegar or old verjuice; theſe things by ſtrengthening the fibres, often put a ſtop to their growth, ſo that they wear away inſenſibly. In ſome conſtitutions, purging, and afterwards diuretick drinks, made with Roſin, Sal Prunellæ, and Smith's Forge Water, will be a great means to remove the humidity and moiſture about the Limbs, that often gives origin to all ſuch excreſſences. But if the ſplent be near the Knee, and cauſe lameneſs, it muſt be treated in the ſame manner as a bone ſpavin, by bliſtering and firing all over it, and over the parts that are any ways affected by it. Splents on the back of the Shank Bone, behind the back Sinew, are troubleſome, and often with exerciſe cauſe the Sinew to ſwell; they are the more difficult to cure that they are covered with that Sinew, and with ſome branches of Blood-veſſels on each ſide, where the Veins ſometimes form Varixes that are exceeding painful, by the frequent frictions of the ſplent upon them, as often as the Horſe is in motion. The cure here is often doubtful; but the likelieſt way is to bore the ſplent in ſeveral places, with an iron not very hot, avoiding the Veins and the back Sinew, and then firing all over the back part of the Leg, in the common way, like a feather, not making the lines too deep but very cloſe together, that a ſufficient portion of the particles of fire may enter; nevertheleſs, I ſhould, in the firſt place, prefer mild bliſters often repeated, as recommended in the cure of a bone ſpavin, which I have found to anſwer beyond expectation, and without the hazard of any ill accident, or any remarkable diſfurement.

A ſplent near the joint to be treated as bone ſpavin.

Of Windgals, and other flatulent or windy Tumors.

HAVING treated of the various kinds of hard ſwellings that are peculiar to Horſes, I now proceed to thoſe that are of a ſoft flatulent kind, commonly known by the name of Windgals.

A Windgal is a flatulent windy tumor, which yields to the preſſure of the finger, but upon removing the finger recovers itſelf and puſhes out as

A windgal deſcribed.

before, cauſing an elevation of the ſkin, ſo as to be plain and viſible to the eye.

WINDGALS are often ſeated on both ſides of the back Sinew, above the fetlock on the Fore-Legs, but moſt frequently on the Hind-Legs; they are quite looſe and unfixed, and exhibit the ſame ſigns wherever they are ſituated, whether in the Hocks or about the Knees; for theſe kind of ſwellings are not confined to the lower Limbs only, but appear in divers parts of the Body, wherever the Membranes can be ſo ſeparated, that a portion of air and ſeroſities may be included within their duplicatures; and for the moſt part without pain.

The cauſe of windgals.

THEY are uſually cauſed by riding on very hard roads or on dry hilly grounds, which by keeping them pretty much upon the ſtretch, ſeparates the membranes, ſo as to give admiſſion to the air, with a repletion of all the membranous fibres. Sometimes travelling Horſes, when they are too young, before their Limbs are grown firm and nervous, will bring windgals, and ſometimes windgals proceed from a naturally relaxed conſtitution, and weakneſs about the Limbs, eſpecially large carcaſſed Horſes, that are ſomewhat underlimbed, and fleſhy about the fetlock Joint; ſuch I have known to have windgals without any ſtrain, hard riding, or other ill uſage.

Prognoſticks.

WHEN windgals come on the hind Legs, they never cauſe lameneſs, but ſuch Horſes as are often ſtiff behind after riding; when they come on the fore Legs, they always make a Horſe go lame at firſt, but afterwards that tenderneſs goes off in a great meaſure, and they ſeldom go lame, but ſtiff, and inclinable to ſtumble, which they generally recover with a days reſt; for there is always pain upon the firſt ſeparation of the Membranes and the firſt entrance of air; but when theſe are filled to the utmoſt ſtretch, the vellications cauſed by the motion of the Limbs are more uniform, and not ſo painful. Thoſe windgals and flatulent ſwellings that come in the ſinuoſities of the Hocks, are always troubleſome, are a very great disfigurement, and unleſs they be ſpeedily prevented will intail incurable lameneſs; at firſt they are but ſmall, but in time grow to the ſize of pullets eggs, and puſh out on each ſide the hollow of the Hock. I have alſo ſeen flatulent ſwellings of the ſame kind above the knee, where they always cauſe lameneſs, even though the ſwelling or puff be but ſmall; and I have ſeen flatulent ſwellings juſt under the fore-part of the Knee, in the interſtices of both ſides of the Joint, which are alſo dangerous; but theſe ſeldom happen, and are uſually cauſed by ſome violent ſtrain or wrench, eſpecially when a Horſe falls downwards upon a deſcent with his whole weight upon his Knees.

Knees. The other flatulent ſwellings Horſes are ſubject to, ſeldom cauſe lameneſs, and are for the moſt part eaſily cured; I mean thoſe that happen in the interſtices of the large Muſcles of the Hips and Thighs, which are blown up like little bladders, and are filled with air, and come by ſtraining; for draught Horſes are moſt ſubject to them of all others. But thoſe windgals and flatulencies that proceed from natural weakneſs of the Limbs, are not curable, unleſs the conſtitution can be altered; and therefore we ſee ſome Horſes ſubject to thoſe infirmities when they are young, get the better of them as they grow to maturity.

The method to prevent windgals.

WINDGALS that do not proceed from weakneſs, but are owing to hard riding, or the other cauſes abovementioned, are more eaſily prevented than cured; for though few Horſes go lame with windgals, yet they always diſfigure the part wherever they are ſituated; and therefore young Horſes of value ought not to travel much, eſpecially with a heavy weight, before they come to their ſtrength. If they ſwell about the Paſterns, and the ſwelling does not aſcend towards the Knee, but with a fulneſs on each ſide the back Sinew, it is to be ſuſpected windgals are breeding; to prevent which, bathe the part well twice a day with Vinegar or Verjuice. Oak Bark, or Pomegranate Bark boiled in Vinegar or Verjuice, is a great ſtrengthener of the Limbs, where there appears to be a more than ordinary relaxation. This may be uſed at diſcretion, by wringing out woollen cloths ſoaked in this decoction, and binding them about the part, while the Horſe ſtands in the ſtable, and renewed once a day, which will greatly contribute to ſtrengthen his Limbs; ſome uſe wine lees in the ſame manner, which may alſo be of good ſervice.

The cure of obſtinate windgals.

BUT when windgals are grown pretty full and large, and the matter of them ſo impacted in the membranous cells, that they feel like kernels or relaxed Sinews; if theſe be in the hind Legs, it is ſcarce worth while to meddle with them; and we ſee daily many good Hacks and road Horſes, that travel long journeys, and never go lame; but when they are ſituated on the fore Legs, becauſe they are apt to make a Horſe trip and ſtumble, or at leaſt to be very ſtiff after riding, the cure may be attempted by mild bliſters; ſome only pierce them with an aul, but that often renders them more obſtinate, but mild bliſters often repeated, draw out the ſeroſities, diſſipate the impacted air, and by degrees remove them; bliſtering always has this effect in the windgals, that happen above the Fetlock, and ſometimes I have known bliſtering alone ſucceed in the windy flatulent tumours in the Hocks; but this has been repeated at times for the ſpace of a year or a year and an half, working the Horſe as uſual in all the intervals. Theſe acci-

dents happen chiefly to coach Horſes, and others that draw heavy loads, and the beſt way to manage their bliſters is this: A little of the bliſtering Ointment ſhould be laid on every other day for one week, which brings a plentiful diſcharge of ſeroſities, and when they are dried up, which generally happens in a few days, the Horſe may go to his uſual work for three weeks or a month, after which the bliſtering may be again renewed, if it be a convenient time for the owner, or at any other ſeaſon when the Horſe can have a little reſpite given him from working. I have cauſed Horſes to be bliſtered in this manner ſix or eight times within the year, by which method I daily got ſome ground, the puffs and ſwellings have been gradually reduced, the Fibres and nervous parts have been ſtrengthened, no manner of blemiſh has been left, nor any loſs of hair, and the lameneſs has been removed. Firing is indeed more expeditious, being but one ſingle operation, which is ſeldom or never repeated, but firing not only leaves its tokens behind it, but for the moſt part makes an imperfect cure, and as the ſeroſities are never ſufficiently drained off, there always remains a fulneſs in the Joint, with a ſtiffneſs; and the only good effects obtain'd by it is this, that it ſtops the increaſe of the malady, and renders a Horſe much more uſeful than he was before the operation. The beſt bliſter that can be uſed in this caſe, is that mild preſcription, which has been already recommended for the cure of a bone-ſpavin.

Firing uſeful in the cure of Windgals.

As for thoſe puffs and flatulent ſwellings that ſometimes riſe near the Joint of the Knee, the beſt way is to remove them by repellers; in regard theſe are often cauſed by blows or ſtrains, the propereſt repellers are Oak bark, or Pomegranate Bark boil'd in Vinegar, or in ſharp Lees of Wine, which may be apply'd with Woollen Cloths, as already directed; but if theſe have not force enough to take effect, then the beſt way is to bliſter without delay, for when theſe are ſeated near the Knee they prove dangerous, unleſs ſpeedily removed, for this reaſon firing is alſo proper after bliſtering, which ſhould be done with a ſmall Iron, and the lines or raſes made as near to one another as poſſible; afterwards covering the whole Knee with a defenſive plaiſter, for which purpoſe, the Ad Herniam, or Rupture Plaiſter, mixed with De Minio, either the red or brown, equal parts, is preferable to any other, letting it lye on as long as it will ſtick.

In the human body, it is uſual to treat flatulent ſwellings with diſcutient fomentations made of warm Aromatick Herbs and Cummin Seeds, as Bay berries, and ſuch like, but the Skins of Horſes are ſo thick, and their Fibres ſo rigid, that ſuch things make little or no impreſſion upon them, neither does the Cummin Plaiſter avail any thing, it being impoſſible to make this

plaiſter

plaiſter ſtick ſo as to be of any uſe; and therefore I judg'd it unneceſſary to lay down any forms of ſuch things.

As to the flatulent windy tumors that riſe between the Interſtices of any of the large Muſcles of the Hips, or elſewhere; theſe generally come by accidents, and the beſt way is to make an inciſion, and digeſt the wound, or waſh it pretty often with Spirit of Wine and Vinegar, equal parts, for when the Membranes are pierc'd, and the air and viſcid Seroſities are diſcharged, the parts ſoon agglutinate and heal, and thereby recover their wonted tone. But theſe ſort of flatulences often wear off, without any help by the working of the Muſcles in their exerciſe, the action of the Muſcles in a Horſe being very ſtrong and forcible, and as they are not dangerous, the beſt way is to try repellents, before any thing elſe be done.

Of a Blood-Spavin.

A Blood-Spavin is a ſwelling and dilatation of the Vein, that takes its courſe along the inſide of the Hock, forming a little ſoft tumor in the hollow part thereof. The ſwelling is uſually no bigger than a large walnut, but more flat. It is ſoft and yielding to the touch as the other Veins, and often attended with weakneſs and lameneſs in the Hock. The Blood-Spavin deſcrib'd.

This malady is called a varix in the human body, and is often the effect of wounds, bruiſes, and other accidents; aged and weak perſons are ſubject to varixes from the poorneſs of their Blood and the badneſs of their Juices, and in young perſons they are owing for the moſt part to a Plethora, and fulneſs of Blood. But a blood-ſpavin in a Horſe, for the moſt part is owing to theſe concurring cauſes, *viz.* an uncommon largeneſs of the Veins, which diſpoſes to weakneſs in the Limbs. The Vein where the varix is ſeated not paſſing in a ſtreight courſe, but with a contortion or winding, eſpecially when two of the larger, inferior branches meet together near the hollow, and there enter the great Maſter Vein of the Hind Leg; this generally forms the largeſt varix, or blood-ſpavin, and of ſuch ſort as moſt of all diſpoſes to lameneſs. The ſhape of the Hock contributes alſo to this malady when it is broad and large, as it is more remarkably in ſome Horſes than others, and the proceſſes of the Bones of that Joint are high and prominent, ſo as to render the ſinuoſities and hollowneſs both deep and ſpacious, whereby a lodgment is more eaſily form'd for the turgid Vein, which greatly retards the motion of the Blood contained in it, and contributes to increaſe the ſwelling, ſo that it is continually impreſſed and bruis'd by every action of

It is properly a Varix.

The cauſes.

of the Joint; and from hence it falls out, that in a blood-ſpavin a Horſe always grows the more lame the longer he is kept in exerciſe.

The cure of a Blood-Spavin.

The uſual cure of a blood-ſpavin is by taking up the Vein, but that is not neceſſary in all caſes. When a blood-ſpavin proceeds from a ſtrain in the Hock, it ought only to be treated with coolers and repellers, which often cures without further helps. Young Horſes often have a fulneſs in that Vein when they come firſt into work, eſpecially if their Blood be viſcid and ſizy, but that defect ordinarily wears off with a careful management of a Horſe's diet and exerciſe, and with other good uſage; the propereſt applications to ſtrengthen the Hocks, or any other of the joints, are cooling and reſtrictive fomentations, for which purpoſe I can recommend the following above all others, and it is eaſily made.

Take Biſtort Root, and Solomon's Seal, of each a handful; Oak Bark, and Pomegranate Bark, cut or bruis'd, of each an ounce; Roch Allum, an ounce and a half; boil in two quarts of Vinegar, or old Verjuice, and bath the Horſe's Hock with it pretty often; the beſt way is to wring out Woollen Cloths, and apply them hot round the Hock.

This is not only proper to prevent a blood-ſpavin, but in all weakneſſes of the Joints will do great ſervice, eſpecially to ſtrengthen the Limbs of Colts, and young Horſes, that have been put early to buſineſs.

But if either the ſtructure, or ſituation of the Veins in the Hock, are ſuch as admits of no diminution, the beſt way is to take up the Vein, by opening the Skin the whole length, then paſſing a crooked needle underneath the Vein, a little way below the ſwelling. The needle ſhould be arm'd with a wax'd thread doubled, with which the Vein is to be tyed. The ſame operation may be alſo performed a little way above the ſwelling, and the turgid part of the Vein will come away by digeſtion, when the ligature rots off; I have known ſome farriers cut off the middle piece of the Vein, between the Ligatures, and ſucceed very well in the cure, only that the cutting out the Vein created heat, inflammation, and ſwelling of the Hock, which might have been dangerous had the Blood been faulty, and *Solleyſell* ſays, he has known this way of taking up the Vein (which it ſeems is very common in *France*) produce the Farcy, and prov'd fatal to ſeveral Horſes. After taking up the Vein, the part ſhould be dreſſed with a good digeſtive made of Turpentine, Honey, and Spirit of Wine, which is milder than Oil of Turpentine, and renders it more proper in this caſe while the wound is digeſting; the current of the Blood being cut off by this operation,

will gradually enlarge the neighbouring branches, and by that means keep up its communication ſo as as to ſupply the limb with its proper ſupport and nouriſhment, and by that time the threads are rotted off, and the wound cloſed, will arrive to a tolerable degree of ſtrength; but yet I would always adviſe when a Horſe has had a Vein taken up for a blood-ſpavin, that he ſhould be uſed gently for a conſiderable time, for many Horſes with theſe defects never recover their ſtrength ſo perfectly as others that have never been ſubject to them.

The worſt ſort is when along with the ſpavin there are alſo flatulences and puffs in the Hocks, which I have ſeen ſeveral times; in common caſes I have often recovered the Hock without taking up the Vein by ſuch reſtringent fomentations as the laſt inſerted, which often ſucceeds with young Horſes, and with right and well timed exerciſe, and a clean drying diet recover them to their ſtrength; but in the other caſe nothing is to be done without firſt taking up the Vein, and afterwards following the method already laid down for the cure of windgals and other flatulent tumors, particularly bliſtering and firing, applying a ſtyptick plaiſter or charge made of the rupture plaiſter, two parts, and one part of *Diachylon* or *de Minio*, to render it leſs brittle, which is neceſſary here becauſe the motion of the Joint would be apt to make it crumble off. This is a great ſtrengthener or defenſive, and ſhould be ſpread very thick all round the Hock, and continued for two or three months, during which time the Horſe may be turned out to graſs.

The rupture plaiſter in moſt of our diſpenſatories is directed in the following manner, *viz.*

Take of Galls, Cypreſs Nuts, Pomegranate Peel, Balauſtines, Acacia, the Seeds of Plantain, Fleawort and Creſſes, Acorn Cups, roaſted Beans, long and round Birthwort, and Myrtles, of each half an ounce; let all theſe be powdered and macerated, or ſteeped four days in Vinegar of Roſes, and afterwards dried. Then take of the greater and leſſer Comfrey, of Horſe-tail, Woad, Cetrarch, Roots of Oſmund Royal and Fern, of each an ounce; of Frankinſcenſe, Myrrh, and Maſtich, of each two ounces; of Armenian Bole, waſhed in Vinegar, of prepared Calamine, Litharge of Gold and Dragon's Blood, of each three ounces; of Pitch, two pounds; of Turpentine, a ſufficient quantity to make the whole into an emplaiſter.

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I have inſerted this plaiſter, not that I ſuppoſe many will be at the trouble of making it, ſeeing it may be had ſo eaſily at almoſt every apothecary's; but that the practioner may ſee what things are proper in the intentions of ſtrengthening parts that are weak and relaxed, for which almoſt all the ingredients in this compoſition are perfectly well ſuited; tho' the ſame end may perhaps be as well anſwered where the ingredients are not ſo numerous; and therefore when this plaiſter cannot eaſily be got another may be ſubſtituted in its room, in the following manner.

Strengthening charge proper in a blood-ſpavin.

Take Diachylon plaiſter or De Minio, the red or the brown, two pounds; Pitch, half a pound; melt them together in a pipkin, and when the whole is melted ſtir into the mixture an ounce of fine Armenian Bole, which taſtes acid, and an ounce of dyer's Gall.

This may be applied chargewiſe, as the other, and will anſwer all the ſame purpoſes; the De Minio is only made of Red Lead and Oil, as the Diachylon Simplex is of Letharge; the brown has an addition of Bees Wax and Vinegar, which changes the colour of the Red Lead and turns it brown. The dyer's Gall is a fungus that grows out of a foreign oak, has the ſtrengthening and reſtringent properties of the oak, and is much eaſier reduced to powder. And the Bole is not only drying and reſtringent, but gives a good body and conſiſtence to the plaiſter, ſo as to prevent it from running.

Horses are ſubject to other varices beſides the blood ſpavin, but are ſeldom minded unleſs they cauſe a Horſe to go lame. I have ſeen varices ſeveral times on the Fore-Legs, behind the joint of the knee, on each ſide the back ſinew, between it and the bone, where the crural Veins are ſeated, and ſometimes below near the Fetlock; and I have ſeen a varicoſe diſpoſition in the whole Vein on one ſide, and not in the other on the oppoſite ſide. And I have known the ſhakle Vein, tho' it is naturally no bigger than a ſmall packthread turned to a varix as large as a man's little finger. When theſe happen Horſes always go lame; and it is one of thoſe ſort of lameneſſes which few practitioners are able to find out. But I ſhall diſcourſe more fully on this when I come to treat of ſtrains of the back-ſinew.

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Of Wens.

WENS are fleſhy ſubſtances that grow out almoſt on all parts of the Horſe's body. They often proceed from bruiſes or ſtrains, and ſometimes from accidents that are minute and imperceptible, beginning uſually in the ſkin, where the veſſels are extremely ſmall, which enlarging gradually by a continual afflux to the diſeaſed part, in time grow to a conſiderable ſize. Wens deſcribed.

THEY are ſeldom painful, which is owing to their ſmall beginning and ſlow growth, being ſometimes of ſeveral years ſtanding before they arrive to any great ſize, ſo that they become like the natural fleſh, and rarely have any other ſenſible effect than to cauſe a deformity or weight upon the part where they are ſituated. Their ſubſtance is generally fleſhy, and for the moſt part ſpungy; tho' ſome are ſpungy in part, with a mixture of ſchirrous hardneſs, of a ſcrophulous or cancerous diſpoſition, eſpecially when they ariſe among the glandulous parts.

WHEN a wen takes its origin from the Tendons or Membranes of the Muſcles, or when any part of a wen has a participation with them, that part generally appears upon diſſection, like ſo many ſmall threads, or like a bundle of hair laid cloſe together, which, according to ſome, is a true ſchirrus. When a wen riſes or has a communication with the *Membrana Adipoſa* or the Vaſcular Cells that contain the fat or unctuous part of the Blood, its ſubſtance is then chiefly an accumulation of a greaſy matter reſembling ſuet; and in ſome a conſiderable quantity of clear water has been found, eſpecially upon ſqueezing, which probably may proceed from ſome communication with the lymphatick veſſels.

ALL true wens are contained in a cyſtis or bag, which riſes from the ruptured veſſels, formed by the ſlow advances it makes, and incloſes the whole ſubſtance, encreaſing both in its thickneſs and ſize as the wen encreaſes. And this is the reaſon why wens and all other incyſted tumors can never be perfectly cured, unleſs the *Cyſt* or *Capſula* be alſo deſtroyed.

HORSES are ſubject to wens and fleſhy tumors, as all other animals are, tho' they are ſeldom ſuffered to grow to any ſize before they are extirpated. There is ſo much delicacy uſed in treating the human body, that theſe ſubſtances not being painful are often ſuffered to go on till they cauſe great deformity, or become troubleſome with their weight, or are attended with ſome other very great inconveniency. But as we are ſollicitous to have every the leaſt deformity removed from our Horſes as ſoon as any ſuch appears, Horſes ſubject to wens.

therefore when a preternatural ſwelling riſes on any part, trial is firſt made to diſſolve it, and if that cannot be done, it is cut off without ceremony, or elſe deſtroyed with a cauſtick. Nevertheleſs we often ſee draught Horſes that are of ſmall value with very large wens, even ſometimes upon their Joints, without making them go lame, eſpecially thoſe that hang looſe and have their ſituation no deeper than the ſkin; and we may often ſee oxen and cows with very large wens upon their Knees, which might eaſily be removed, without danger, if they were any ways hurtful.

A very large wen near the wind-pipe.

I was once concerned with a very fine Horſe that had a large wen on the lower part of his Neck, near the Wind-pipe, which was cut off with a ſharp inſtrument. It grew from a ſmall beginning, not bigger than a walnut, to the bulk of a middle ſized melon, without pain or inflammation, but at laſt it became troubleſome and affected the motion of his Shoulders. This ſubſtance when it was cut off, appeared to be no other than a maſs of fungous fleſh, a little variegated in its colour, and probably proceeded from a rupture of ſome very ſmall twigs of the Jugular Arteries, which being enlarged by a continual afflux of the Blood, cauſed ſo great an effuſion of Blood from ſeveral orifices, that it could not be ſtopped by the actual cautery; however the firing reſtrained it ſo far as to make way for a ſtyptick, by which means the wound came to digeſt and was ſoon cicatrized.

The cure of wens.

When wens are pendulous and hang by a ſmall root, the beſt way to extirpate them is by tying them with a waxed packthread, or a hair line, making the ligature or tye tighter by degrees, till the ſubſtance falls off; afterwards it may be healed with a common digeſtive made of Honey and Turpentine, or by bathing it frequently with Spirit of Wine or Tincture of Myrrh. But when a wen is broad towards its inſertion, that is at bottom, and has ſeveral origins, like cords or ſtrings, it is ſometimes the ſafeſt way not to meddle with it. If the cure is practicable, it muſt be done by exciſion or cauſtick. The firſt dreſſing muſt be with dry tow, and afterwards with the common digeſtive. If proud fungous fleſh ariſe, it may be dreſſed with Turpentine mixed with red Precipitate, *viz.* two drams of Precipitate ground fine to two ounces of Turpentine; and where it requires moſt the ſore or ulcer may be ſtrewed with powder of Precipitate, or with Precipitate and burnt Allum, in powder, of each equal quantities, and if ſtronger eſcharoticks be required, equal quantities of powder of blew Vitriol and red Precipitate may be uſed, or the ulcer may be touched with a feather or pencil dipped in Butter of Antimony, eſpecially if it look cancerous; for which the reader may conſult what has been ſaid concerning cancerous ulcers.

HORSES are ſometimes ſubject to ſwellings on the heel of the Hock, and likewiſe on the point of the Elbow, which the *French* and *Italians* call Capellets, and are ranked among the wens becauſe they have ſome of the ſame qualities and reſemblances, *viz.* they often riſe to a conſiderable bulk, are ſeldom painful, but when they inflame and ſuppurate, and therefore ſeldom cauſe ſickneſs or lameneſs, and are often encyſted as wens, and have much of the ſame kind of contents. But, however, ſome Horſes may by their natural conſtitution be more inclinable to ſuch maladies than others, in which reſpect ſuch ſwellings may be ranked among the wens; yet daily experience ſhews us that theſe on the Hock or Elbows, are uſually owing to bruiſes and other accidents.

Wens on the Heel of the Hock and Elbow of a Horſe for the moſt part owing to bruiſes, &c.

YOUNG Horſes that are tickliſh and given to kicking, when they come firſt to ſtand between bales are apt to laſh out, eſpecially when the bales hang upon ropes and chains ſo as to move to and fro; and by that means often ſtrike their Hams againſt them or againſt the poſts, and bring a ſwelling upon the tip of the Hock; which I have often prevented, by cauſing ſuch Horſes to be moved into cloſe ſtandings, and when ſlightly hurt, by bathing the aggrieved part with Vinegar or old Verjuice, mixed with a little Bole; thoſe ſwellings that riſe on the point of the Elbow, are uſually thought to proceed from a Horſe's ſtriking the Toe of his Hind-Foot againſt his Elbow in lying down, eſpecially where his ſtanding happens to be narrow and ſhort; and I am apt to imagine ſome Horſes meet with ſuch accidents where the pavement is ſlippery, and want of ſufficient litter; for by that means Horſes may eaſily rub and bruiſe their Elbows, and we rarely ſee ſuch accidents happen to thoſe that have roomly ſtandings and good bedding.

WHEN theſe tumors come by accidents, we find the ſwelling generally on one Limb, and oftentimes ſome impreſſion is made on the part, which ſhews it has come by a ſtroke or bruiſe; but when it riſes on both ſides, *viz.* on both Heels, or on both Elbows, and from a ſmall beginning riſes ſlowly and by degrees, we may then ſuſpect the Blood and Juices in fault, which ought always to be regarded by thoſe who undertake the cure of ſuch maladies.

CAPELLETS on the Elbow, or heel of the Hock, are ſeldom ſo perfectly cured, as not to leave ſome blemiſh or callofity: If they proceed from blows and contuſions the ſame method is to be followed that has been laid down for the cure of all ſuch accidents; *viz.* by coolers and repellers. Theſe applications often abate ſuch ſwellings, both on the Hocks and Elbows, without further trouble, and in time remove them; but when the

veſſels are broke, and the juices extravaſated, they generally come to ſuppuration, which may be forwarded by anointing with *Dialthæa*, or almoſt with any unctuous application; and, if the thickneſs of the ſkin hinder or retard their breaking, they may be opened with a launcet or inciſion knife, in ſome dependent part towards one ſide, and not behind, which is better here than opening by cauſtick, becauſe as little as poſſible of the ſkin ſhould be deſtroyed, where the parts are prominent, otherwiſe it would be difficult to cover the proceſſes of the bones that form the Heel and Elbow; and, beſides the blemiſh that this muſt leave, the cure would alſo be tedious. The ſame caution ought alſo to be obſerved in all tumors that riſe on the proceſſes of any of the other bones, eſpecially on the joints, where their continual motion hinders their re-union, when they become wounded, or meet with any other accident that cauſes loſs of ſubſtance.

When the matter of theſe tumors is all diſcharged, and the abſceſſes formed therein are dried up, which may be done with ſoft doſſils dipp'd in a mixture of common turpentine, honey, and tincture of myrrh; and, in caſe of proud fleſh, with the aſſiſtance of precipitate vitriol, burnt allum, and ſuch like, there remains nothing further than to bath the part once a-day, or oftner, with ſpirit of wine and vinegar, equal parts, and about an eighth part of oil of vitriol added to it by ſingle drops, as has been elſewhere directed. The ſkin after ſuch accidents continues generally relaxed and thick, and at the ſame time exceeding ſpungy; I have ſeen it at leaſt an inch and an half on the Elbow, and of a pale colour reſembling an unripe cherry, when it is cut iſſuing forth a moiſture like that which comes from wounded tendons, and by uſing this mixture conſtantly after the groſſer matter has all been diſcharg'd, bathing the ſore, and all over the ſwelling, the ſkin has ſhrunk gradually, and the cure has been made without leaving a calloſity, in leſs time than one could well imagine; for when a calloſity or thickneſs of the ſkin remains, which cannot indeed always be avoided, it expoſes them to freſh impoſtumations and abſceſſes.

The capellets or ſwellings on the heel of the Hock often differ from thoſe on the Elbow, eſpecially with regard to their contents; for as the tumors on the Elbow uſually digeſt well with good laudable matter, ſo it is otherwiſe in the Hocks; the matter of theſe ſometimes reſembles thick paſte, others contain nothing but a thin viſcid water. In piercing them with a trochar I have ſeen ſome diſcharge upwards of a quart of this thin matter; and as the ſkin there forms a caſpula, that cannot be removed without an irrecoverable diſfigurement, ſo this matter is apt to gather and fill again in the manner of an atheroma. But the coach breed are the moſt liable to

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ſuch maladies, and as they ſeldom cauſe lameneſs, they are therefore the leſs regarded.

When any of theſe tumors proceed from an indiſpoſition of the blood, in ſuch caſes I always found it the ſafeſt way not to be too buſy with them, eſpecially thoſe that ſeem watry, and are no ways hot and inflam'd. I have known them often wear off inſenſibly, without any applications made to them, only by keeping the horſe to a clean diet, and giving him moderate exerciſe; but when they are like to prove tedious and fluctuating, ſometimes riſing and ſometimes falling, without coming to any certain or determinate iſſue, and if they have a tendency to drop downwards into the limbs, the beſt way is then to rowel and purge, and when the purging is quite over to give diuretick or piſſing drinks, made with clean forge water, which before the juices are extravaſated will effectuate a cure. Afterwards bathing often with ſharp vinegar or verjuice will ſtrengthen the part, and be a great means to prevent a relapſe. But the ſureſt and ſpeedieſt cure is to extirpate them quite with a ſharp inſtrument; this, however, can only be done when they do not adhere to the proceſs of the Elbow, but may be pulled out, and have nothing but a ſmall neck of ſkin behind them. As for thoſe that riſe in the heel of the Hock they cannot be ſo ſafely extirpated, but will be apt to leave an ugly blemiſh.

CHAP. XI.

Of Wounds.

A Wound is generally defin'd a ſeparation of the parts in any member of the animal body by ſome inſtrument: But moſt people know better from experience what a wound is, than by any definition that can be made of it.

Wounds are of different kinds, ſome are ſimple, where the muſcular fleſh or tendons are any ways cut or divided by a ſword, knife, or other ſharp inſtrument; others are compound or complicated, when not only the fleſh, nerves and tendons are divided, but when the bones are alſo cut or fractured, or when ſplinters and extraneous matter is lodged within the wounded fleſh; this often cauſes aggravations in wounds of the complicated kind, as are alſo all wounds with contuſions, where the fleſh and nervous parts are not only cut or broke aſunder by the violence of the ſtroke, but where the circumambient fleſh is alſo bruiſed, whether by the bluntneſs of the inſtrument, or by the prominency of the bones, and other hard parts that

The various kinds of Wounds.

that lie under the wound. There are alſo lacerated wounds, of which kind are all thoſe cauſed by nails, tenter-hooks, or ſplinters of wood that tear the fleſh, and alſo when they happen to be ſtak'd at graſs; all which produce wounds of the lacerated kind. Punctures are deep ſmall wounds made by nails, or ſharp ſplinters piercing thro' the fleſh; and ſometimes the joints, and other nervous parts are wounded with new forks careleſsly uſed, before their points are worn blunt and ſmooth, all which wounds are generally punctures; beſides theſe, our war-horſes are expoſed to gun-ſhot wounds, and other accidents, which will be treated of in their order.

Now, all wounds are perceptible to the eye, but to know how far they penetrate, or how far the internal parts are affected by them, requires ſome knowledge and experience. Simple wounds in the fleſh may be often traced in all their dimenſions, without the help of a probe or inſtrument; but when they are deep, and form abſceſſes, it is then neceſſary to make ſome trial of them. In wounds of the Head, if the horſe be convuls'd, and inclin'd to the ſtaggers, and continues under theſe ſymptoms, we may ſuſpect the brain to be wounded, with its membranes; and if the Cerebellum be wounded his convulſions will be ſtrong, and ſcarce admit of any intervals. The ſame ſymptoms will ariſe from a fractur'd ſkull, eſpecially if any part of it be depreſſed; but theſe are accidents that ſeldom happen to horſes, the bones of the ſkull being extremely hard and ſolid. When the wind-pipe is wounded the air will come forth of the wound. And if the wound be in the Lungs, not only the air, but a frothy matter of a vermillion colour, will be diſcharged from it. When the Stomach is wounded the aliment or food, eſpecially the thinner part of it, paſſes thro' the wound; and when the ſmall guts are wounded the matter will be mixed with the chyle. When the bladder is wounded the urine will come forth of the wound, and if the wounds be in the kidneys the matter will be thin, and have an urinous ſcent, and the urine bloody.

Dangerous ſymptoms in wounds.

All wounds that penetrate the noble parts are generally attended with pain, ſickneſs, and often with convulſions. When the Heart is wounded, fainting and ſtrong palpitation will be the immediate conſequence. Wounds of the Liver are attended with great pain and inward bleeding, from the *Vena porta*, and other large blood-veſſels. Other wounds are in like manner diſtinguiſhed by their proper ſymptoms; for inſtance, when a horſe is any where wounded in the Membranes and Sinews, there is always an exquiſite ſenſe of pain, the matter is generally thin and viſcid. When a Wound is received in the joint, that penetrates the ligaments, it is often attended with a joint water, and many other ill conſequences.

As

As to the prognoſticks, they are in many reſpects the ſame as in the human body, for fleſh wounds are eaſily cured, if the blood be good and balſamick; but if that be tainted or vitiated, the moſt ſimple wound may become troubleſome and difficult, and ſometimes dangerous in the beſt conſtitution, eſpecially when any of the larger arteries are divided. Wounds in the membranes and nervous parts are more difficult, and attended with worſe ſymptoms than fleſh wounds; and when the ſinews are wounded, eſpecially if they be punctur'd, prick'd, or any ways torn, they always excite great pain, and ſometimes with a ſymptomatick fever; otherwiſe, when theſe wounds digeſt kindly, are as eaſily cured as any other. The prognoſticks to ſhew when wounds are dangerous, and when not.

Wounds in the joints are always troubleſome, and if there be a joint-water in any quantity they indanger ſtiffneſs and incureable lameneſs, if not a waſte and conſumption. All wounds of the Brain and its membranes are exceeding dangerous, and in the Cerebellum always mortal. Wounds in the Wind-pipe, in the Heart, the Lungs, and in the Liver, are always dangerous, even tho' the larger veſſels are not penetrated. In the Heart, becauſe of its Diaſtole and Syſtole, *viz.* its contraction and dilatation. In the Lungs, becauſe of their continual motion in reſpiration. And for the ſame reaſon wounds in the Midriff are generally incurable, and often mortal; for beſides its continual motion, its tendinous and nervous parts, when wounded, excite ſtrong convulſions; and I have known a rent in the Midriff prove fatal to a Horſe in a few hours. Wounds in the Liver are always dangerous, eſpecially if its larger blood-veſſels are wounded, and that there appears the ſymptoms of the yellows, and a diſpoſition to the ſtaggers; and indeed all internal wounds that penetrate or divide the larger veſſels, cauſing inward bleeding, or inward abſceſſes, for the moſt part prove incurable, as are alſo thoſe that penetrate the Stomach and Guts, or any other of the principal Viſcera; for tho' we have accounts of very ſtrange recoveries of the moſt dangerous wounds recorded by the writers in ſurgery, and I have myſelf known ſome extraordinary inſtances of that kind, both in Men and Horſes; yet theſe cures are ſeldom made on the latter, Horſes being unweildy, and in moſt caſes ungovernable, eſpecially when they are in pain, which makes many things impracticable on them, that on other ſubjects would be eaſy, and admit of no difficulty.

In the cure of wounds the firſt intention is always to ſtop the bleeding with dry dreſſings of tow or lint, if there be an hemorrhage, or flow of blood, in places where the veſſels are large, for in ſmall ſuperficial wounds nature alone often makes a cure without any help. If the wound be large, or in any place where it would be likely to leave an ugly ſcar, ſuch a wound ought. The cure.

Manner of ſtitching wounds.

ought to be ſtitched, provided the part will allow it. The beſt manner of ſtitching a large or deep fleſh wound, is with a crooked needle, paſſing it underneath ſo as to encompaſs the whole wound, and entering the fleſh at a diſtance from the lips, almoſt equal to the depth, otherwiſe the ſtitches will go nigh to cut through the fleſh; and while the lips are drawn cloſe together, a hollowneſs will be left at bottom, where the matter will be lodged to do miſchief; and for this purpoſe proper needles may be had at the ſurgeons inſtrument-makers, and no where elſe. Wax'd thread is better than ſilk, becauſe it more eaſily rots, and does not ſo readily cut the fleſh as ſilk. The needle ſhould be paſſed under the bottom of the wound, as has been ſaid, beginning chiefly in the middle. One ſtitch is ſufficient for a wound two or three inches long, and in larger wounds that require more ſtitches, they may be made about an inch diſtant from each other, or at a greater diſtance, if the wound be deep.

Our farriers always uſe what our ſurgeons call the glovers ſtitch, which the latter only do in ſuperficial wounds; *viz.* paſſing a ſtreight needle through the lips with a very ſlender hold, and croſſing the thread over; but theſe ſtitches of the farriers generally burſt through in a few hours, and when they are renewed often tear the lips of the wound into many notches, and make the ſcar much greater and worſe than it would be without ſtitching. This kind only anſwers where the ſkin is looſe, as upon the breaſt, the belly, the face, and ſometimes the flanks, but in few places beſides, and in theſe not always needful; for where there is ſo much looſe ſkin the ſcar is generally ſmall; and indeed there is ſeldom occaſion for ſtitches in Horſes wounds, which often prove hurtful, as I have frequently obſerved, when Horſes have been ſtak'd or gor'd by oxen feeding along with them; and in many other caſes, where they have cauſed troubleſome ſymptoms of worſe conſequence than the hurt theſe are deſigned to prevent. Wounds on the prominent parts, as the Hips, or acroſs ſome of the large Muſcles, are the moſt apt to burſt their ſtitches, eſpecially in lying down and riſing up in their ſtalls; and therefore in all ſuch caſes the lips ſhould never be drawn cloſe together, but left a little open for a free diſcharge, and by ſo doing few bad accidents will happen, and the ſcar will be leſs diſfigured than when the ſtitches break, and leave the wound all notch'd, and full of croſs lines; and therefore I always chuſe to avoid ſtitching Horſes wounds, unleſs their lips are very open and gaping, which makes it ſometimes unavoidable, or when they are lacerated and torn; and then they ought to be done with great care, ſo as to make the lacerated parts to be indented as near as poſſible into their proper ſituation. This caution concerning ſtitching is ſtill more

neceſſary in wounds that enter the cavities of the body, or even in ſome of the fleſhy parts, ſo as to indanger deep abſceſſes between the Muſcles, or where they reach the Joints, and other nervous parts; for theſe ſhould always be kept open with a tent, or doſil, or pledgit, arm'd with ſome good digeſtive, than which nothing can be better than a mixture of honey, turpentine, and tincture of myrrh, or a pledgit dipp'd in tincture of myrrh and aloes alone. The tents or doſils made uſe of to wounds ought to be ſoft and looſe, and as ſhort as poſſible; for long tents often breed abſceſſes, and ſinuous ulcers foul the Bones and Sinews in wounds of the Joints, or any place near them: And even when tents or doſſils are made hard, and cramm'd into fleſh wounds, which I have frequently ſeen done for want of judgment, they become as a pea to an iſſue, keep it always open, ſo as not only to retard the cure, by hindering its filling up; but often is the cauſe of a bad cure, by breeding calloſities, and other untowardly accidents.

The abuſe of tents and hard doſſils.

THEREFORE this caution ought to be carefully obſerved in the cure of all wounds; *viz.* never to uſe long tents, or any kind of dreſſings that are roll'd up hard, eſpecially in deep wounds in the fleſh, or wounds near the Joints; for theſe ſeldom need any thing more than flat pledgits. If a wound be deep, and does not reach inwards towards the Bones, a counter opening into its bottom may be proper to prevent an abſceſs, at the ſame time avoiding the larger blood-veſſels, that might cauſe an hemorrhage of blood. But when a wound penetrates obliquely downwards, and is ſo diſpoſed, as to make an aperture or inciſion below impracticable, or even hazardous, in that caſe bandage is the beſt method to form a reunion; but there are few places on Horſes, where bandage can be ſo apply'd as to anſwer that end to any good purpoſe, except ſometimes to the Limbs and Feet; and therefore we muſt in a great meaſure truſt to the aſſiſtance that nature will afford us, with the uſe of ſome proper injection, of which kind tincture of myrrh and aloes is the moſt uſual; but if the abſceſs has been thus formed for any time, and thereby the teguments of the Muſcles, and fleſhy Fibres have been abraded, ſo as to cauſe continual dripings within the fleſh, the injections muſt be ſomething ſharp and cauſtick, otherwiſe they will have but little effect. I cured an abſceſs in a Horſe's thigh that was of ſome continuance, and brought him into a kind of atrophy, or lingring decay, by its continual diſcharge, with loſs of appetite; the matter had made its way between ſeveral large Muſcles, and in ſuch a manner, that an aperture could not be made with any certainty. The mixture for the injection was the ſame I have often uſed with ſucceſs to ulcerated greaſy heels; *viz.* as follows:

Take half an ounce of of Roman Vitriol, diſſolve it in a pint of Water, and then decant and pour it off gently into a large quart bottle; add to this half a pint of camphorated Spirits of Wine, and the ſame quantity of the ſharpeſt Vinegar, with two ounces of Ægyptiacum, ſhaking the bottle.

This was injected at firſt twice a day with a proper ſyringe, that held about four ounces, with a pipe three inches long. In a few days the diſcharge leſſened, and the matter grew of a better conſiſtence; after which the injection was uſed only once a day, (the matter being always firſt ſqueezed out from below upwards with both hands) at laſt once in two or three days, and in three weeks the Horſe recovered his appetite, the abſceſs was in a great meaſure dried up, and ſoon after he came to his former ſtrength and vigor.

Contus'd wounds on the Joints.

But when Horſes happen to be wounded on the Joints, eſpecially when they break their Knees by falling down, or when they cut or over-reach; in all ſuch caſes a pledgit laid over the wound, ſpread with common digeſtive, and bound on with a roller of broad tape or liſt, and bathing with ſpirit of wine, will ſeldom fail of a ſpeedy cure, unleſs a Horſe be alſo greas'd, and then it muſt be treated as ſuch. If any little abſceſſes be form'd under the ſkin, theſe may be ſnip'd with a pair of probe ſciſſars, that no lodgment may be left, where the matter may lie to corrode the ligaments; but in the Knee, and all the other Joints, care muſt be had to prevent inflammation or fluxion, or to abate thoſe ſymptoms, if they are already begun, by the uſe of proper fomentations, which, however, is more frequent in punctur'd wounds, that have come by thorns or ſmall ſplinters, or other very ſmall inſtruments, than in wounds that are larger. I have known Horſes in very great agony with punctures on their Knees, Hocks, or Paſterns, and ſometimes with contus'd wounds that have been altogether dry, without the leaſt ſign of digeſtion; but theſe, tho' in themſelves dangerous, were generally relieved by the following fomentation, which I have uſed in all ſuch caſes with the greateſt ſucceſs.

Punctur'd wounds on the Joints.

Take Wormwood and Southernwood, of each two handfuls; Chamomile flowers one handful; Bay-berries and Juniper-berries bruis'd, of each an ounce; crude Sal Armoniack and Pearl-aſhes or Pot-aſhes, of each two ounces. Boil in three quarts of Spring-water to two quarts; to every quart, when you are to uſe it, add a pint of rectify'd Spirit of Wine.

I HAVE elſewhere directed in what manner fomentations are to be apply'd; *viz.* making ſo much at a time ſcalding hot as is neceſſary for once fomenting, wringing out woollen cloths in the liquor as dry as poſſible, and applying them five or ſix times alternately one after another, as often as they begin to cool, which may be done morning and evening, or oftner, till the wound comes to digeſt; hot ſtuphs uſed in this manner attenuate and thin the impacted juices, greatly increaſe perſpiration, and by that means forward and quicken their motion, ſo as to make way for the ſeparation of the matter, and ripen it for a diſcharge. I have always obſerved, when the leaſt drop of white or clear matter appears apon the uſe of fomentations in wounds of the Joints or Sinews, the danger is generally over; for the running from wounds in thoſe, and other dry parts, is uſually ſmall in quantity, unleſs the fluxion, or flow of humours upon them be very large by long continuance; but yet this ſmall diſcharge in a ſound-conſtitution'd Horſe, gives as ſpeedy a relief as a profuſe running from parts that are more groſs and fleſhy. I can therefore recommend this method from frequent experience, as the beſt and moſt ſucceſsful in all contus'd wounds or punctures upon the Joints, or in the Sinews, or the coats of the Blood-veſſels, eſpecially when the Neck or the Plate-vein ſwell after bleeding, and for rowels, when they have a diſpotion to gangrene; and in all caſes, where a mortification is threatned: In the Neck I have often ſaved the Vein by the frequent uſe of them; from thence they uſually bring a plentiful diſcharge, and need no other dreſſing, bnt to ſtrew a little precipitate, and burnt allum, in fine powder upon the wounded Vein, when proud fleſh ariſes, to deſtroy that, and prevent its choaking up the orifice. The common method, when a ſubſtance grows on the Neck by feſtering after bleeding, and want of a ſufficient vent for the matter, is to put in a cauſtick of Roman Vitriol, and ſometimes a little corroſive ſublimate or arſenick, which, with the falling out of the Eſchar, brings a plentiful diſcharge, and often makes a cure only with the loſs of the Vein; but this method frequently fails, and leaves a large ſwelling, which extends upwards towards the Ear, cauſing freſh impoſtumations; ſo that I have been forced afterwards to apply fomentations to remove theſe ſymptoms, which I never knew fail of ſucceſs.

Fomentations of ſingular uſe in wounds.

I JUDG'D it proper to add this to what has been ſaid concerning wounds, becauſe theſe accidents frequently happen when Horſes are bled at graſs, and rub their Necks, and are alſo expoſed to feed with their Heads downwards; or when the orifice is very large, and expoſed to the air for want of careful pinning; or, which is the moſt common of all others, when the Vein is

ſtruck through; for that never fails to make the Neck ſwell; and when the Plate-vein is ſtruck through, and the tegument of the Muſcle underneath wounded, it ſometimes cauſes great inflammation, with a gangrene.

An inſtance of a gangrene in the Plate-Vein from bleeding.

I was once ſent for to a very fine Horſe that had been bled in the Plate-Vein for a lameneſs in his Shoulder, upon which a hard oval ſwelling happened about the ſize of a gooſe's egg, extending upwards towards his briſket, and all down his Leg, with exceſſive pain. Nothing iſſued from the orifice but a continual dripping of a gangrened water, attended with a fever, deadneſs in his looks, and all the other ſymptoms of a beginning mortification. He was fomented three or four times the firſt day, in the manner above directed; a little ſpeck of white matter appeared in the orifice the day following, without ſtench. The Horſe at the ſame time began to feed, and by continuing the fomentations twice a day, and by applying ſoft pledgits of lint dipped in a little hot Ægyptiacum and Oil of Turpentine, he was perfectly cured in little more than the ſpace of one week, both of the threatened mortification and lameneſs.

Of Gun-ſhot Wounds.

Gun-ſhot wounds the moſt complicated of all others, and the moſt liable to untowardly accidents.

GUn-ſhot wounds are often the moſt complicated of all others, whereby not only the fleſh is wounded, but the bones are alſo frequently broke or ſplintered, attended with contuſion, and many other bad and dangerous ſymptoms, as hemorrhages of Blood, when the larger Blood-veſſels are lacerated and torn, exceſſive pain and inflammation, when bullets or other extraneous matter happen ſo to be lodged on the nervous parts as they cannot be eaſily removed; or when the bones are very much ſplintered, whereby the fleſh is continually pricked and ſtimulated, which is often followed with a fever, convulſions, and ſometimes with gangrene and mortification.

The cure of gun-ſhot wounds.

IN the cure of gun-ſhot wounds the firſt intention is always to extract the bullet or other matter, by which the wound is made. But when the ſhot has penetrated and paſſed quite through any member, and made way for itſelf, in which caſe unleſs there be a very great effuſion of Blood, there ſeldom needs any thing more than to pour Spirit of Wine into both orifices, and into each a ſhort tent armed with Turpentine, Honey, and Tincture of Myrrh. When the lips of the wound are inflamed, the uſual way has been to anoint them with Oil of Roſes or Oil of Elder, and ſome mix with their digeſtive, in their dreſſings, a ſmall quantity of Sugar of Lead; but I have always obſerved in gun-ſhot wounds, that nothing is ſo

ſafe, and agrees with them ſo well as ſpirituous applications, which bring them the ſooneſt to digeſt, whereby thoſe ſloughs which the burning occaſions, are the more eaſily and ſpeedily ſeparated and caſt off.

To ſtop the bleeding when a hemorrhage happens.

When there happens to be an hemorrhage of Blood that endangers life, and cannot be ſtopped by the common dreſſings of dry tow or lint, *viz.* when the ruptured veſſels lie out of reach, the beſt way is to inject into the wound (with a ſyringe, having a pipe of a ſufficient length) a ſmall quantity of the Royal Tincture, which is made of the ſympathetick powder, and may be had at a moderate price from the chymiſts; for it is troubleſome for others to make it who have not the proper utenſils for it. This will not only ſtop the bleeding, but haſten digeſtion, unleſs the veſſel be ſo large as to prove ſuddenly mortal; but if the wounded artery is ſo ſituated that it may be laid bare, and a needle can be paſſed under it with ſafety, it may in that caſe be ſtitched and tied in the manner above directed. Where a wound penetrates quite through any part, both orifices muſt be kept open till the wound is filled up with a laudible growth of new fleſh, and that no bad ſymptoms remain, as pain, ſwelling, and inflammation, which in thoſe that penetrate the bones as well as the fleſh would denote foulneſs or ſplinters, which muſt be removed by gradually enlarging the moſt convenient orifice, either by an inſtrument or tents of ſpunge. But in moſt internal wounds this is unneceſſary, becauſe the bullet or whatever elſe inflicts the wound can ſeldom be brought forth the ſame way it enters. I have known lead bullets lye many years in men, eſpecially in the lower cavity, without any great pain or danger, and thoſe that have gone deep in the fleſh and beyond reach, make ſometimes their way afterwards from places where they could never be expected to come. Many extraordinary inſtances of this kind are related in books of ſurgery, and in the tranſactions of the learned in ſeveral parts of *Europe*.

Splintered wounds how to be treated.

I have known bullets pierce through both fleſh and bones in men, making a round ſmooth paſſage, like an augur-hole, and been as eaſy of cure as a fleſh-wound, except when they have penetrated or graz'd on the Joints. In which caſes Horſes may be rendered uſeleſs, even tho' the wound be cured. If the bones are ſplintered the caſe will always be dangerous, eſpecially if the practitioner has not had experience to know both the time and manner how they are to be treated; for looſe ſplinters ſhould not be ſuffered to remain where their continuance would endanger a gangrene, nor be removed while their removal would create an exceſs of pain; but in ſuch circumſtances emollient poultices are the moſt likely to fit them

for

for ſeparation, ſo as they may at length be brought away with little or no inconvenience, only by the uſe of a common digeſtive. If a bullet, a ſplinter, or other extraneous matter that has been drove a great way downwards from its entrance, can be felt on the outſide, a counter opening in that caſe will be neceſſary, and both facilitates the cure, and renders it more expeditious. But in all ſuch operations, regard muſt be had to the ſituation of the part, to avoid as much as poſſible wounding the Nerves, or any of the larger Blood-veſſels.

Greaſy dreſſings to be avoided.

In the dreſſings made for gun-ſhot wounds, it is neceſſary alſo to avoid all unctuous and oily applications, which are apt to breed fungous proud fleſh, but to uſe ſpiritous and balſamick medicines to the wound, *viz.* inſtead of the common greaſy ointments to dreſs with Turpentine, mixed with Honey or the yolks of Eggs, or with Honey and Turpentine, bathing the wound with rectified Spirits. I always obſerved this method to be the moſt ſafe and efficacious in gun-ſhot wounds; and if proud fleſh and fungus's ariſe, to which ſome conſtitutions are more liable than others, it may be ſtrewed with Precipitate finely powdered, or dreſſed with lint dipped in Vitriol Water, and ſqueezed or wrung out dry, or the powder of Precipitate may be mixed with the digeſtive, and this in proportion to the luxuriancy and rankneſs of the fungus. When a bullet chances to enter the cavity of the body, and is loſt there, if it happens to ſlide on the principal *Viſcera* without wounding them, eſpecially thoſe of the Lower Belly, there will ſcarce be any thing further neceſſary than to cure the external wound; for when the internal parts are hurt, it will ſoon appear by many untowardly ſymptoms.

To remove the ſymptomatick fever.

If a ſymptomatick fever ariſes, which often happens in gun-ſhot wounds, bleeding is proper, with laxative glyſters, and the diet ſhould be chiefly ſcalded or moiſtened bran, with water-gruel. Sometimes *Sal Prunellæ*, *Cremor Tartari*, and ſuch like opening and cooling things may alſo be given. And if the wound turns to an ulcer, which frequently happens in gun-ſhot wounds, near the Joints and Sinews, it muſt be treated according to the directions laid down for the cure of ſuch maladies. See ulcers.

Of Burns.

BURNS occaſioned by gun-powder, or happening by any other means, are apt to ingender fungus's, with extreme pain, proceeding from the uncommon heat and inflammation raiſed by the violent effects of the fire. I have often ſeen this ſymptom greatly abated by the immediate application of common ſalt to the part, bound on pretty thick, and continued about twelve hours, which has had ſo good an effect as to prevent bliſters riſing, and the ſores in very deep burns, have after the removal of the ſalt been preſently mitigated, and ſoon healed, only by bathing two or three days with rectified Spirits of Wine. I have ſeen the ſame done often, by bathing immediately with ſtrong rectified Spirits, for the ſpace of an hour or longer, and afterwards once or twice a day. Saline and ſpirituous applications excell all other things in burns and ſcalds, becauſe when they are applied in time they prevent the ſerous juices of the external parts coagulating, which from the diſpoſition we obſerve in burns and ſcalds, ſeems to be the ſource of all the pain and other ill conſequences that ſometimes attend them. The ſeroſities of the ſkin being like a liquid glue, are ſuddenly condenſed and thickened by the immediate heat of fire, and therefore all things that attenuate ſerve to preſerve them in a fluid ſtate; ſo that the application of ſalt and ſoap, which is in almoſt every ones acquaintance for burns, muſt alſo be proper, as the ſoap is both penetrating and greatly attenuates the juices, eſpecially when mixed with ſalt. Yet when any part is violently burnt or ſcalded, I have known this method often fail; and therefore to render this the more efficacious in caſes that require ſuch immediate relief as ſcalds and burns, is to make an embrocation of Soap, Salt, and rectified ſpirits of Wine, which will be found to anſwer the end much better than by laying it on by way of cataplaſm. From hence it is evident that coolers and unctuous things muſt for the moſt part be hurtful in ſuch caſes, and daily experience ſhews us that great miſchief is done by them. Linſeed Oil, Oil of Elder, and the *Unguentum Populneum*, which have been long in common uſe, and are accounted great coolers, ſerve only to increaſe bad ſymptoms, unleſs in very ſlight accidents of this kind, and the *Unguentum Album* has the ſame effect. However, if the ſwelling be very great, and much inflamed, that a digeſtion cannot be made ſpeedily enough to abate it, I have often obſerved great relief from bread poultices, made with Milk and Elder-Flowers, by relaxing the parts when too violently ſtretched,

Burns how to be treated.

ſtretched, as happens in ſome groſs conſtitutions, with the coagulated and inflamed juices; and if after this an ill diſpoſition continues in the ſores, with hot watry fungus's, which is uſual where the fire has penetrated deep, the only method to make a cure is by mixing Precipitate with yellow Baſilicon, *viz.* two drams of Precipitate to an ounce of Baſilicon, ſpread on pledgets of tow ſufficient to cover the whole ſore and its edges, and every time the ſores are dreſſed, to bath with Spirit of Wine, Rum, or any other ſuch ſpirituous application. This method will ſoon abate all bad ſymptoms, and make a ſpeedy cure. The *Unguentum Diapompholygos* or Mr. *Cheſelden*'s ointment of the *Lapis Calaminaris*, in his eſſay towards a new *Pharmocopæia Chirurgica*, muſt alſo be of great uſe to cicatrize burns and all humid ulcers, when the fungus's are deſtroyed.

Two extraordinary caſes of burns.

I was employed to two Horſes that were miſerably burnt by the careleſsneſs of a ſervant who fell aſleep in a ſtable, and had left a candle burning, which dropped among the litter and ſet it on fire. One of them was burnt all along his Throat, Mouth and Noſtrils, his Briſket and Shoulders, his Belly and Sheath, and his Limbs were in ſome places as if they had been broiled. He was ſo extremely ſwelled, and run ſuch quantities of a hot ſcolding water, and his fever ſo violent, with ſuch pain and reſtleſsneſs, that he beat himſelf to pieces, and died miſerably, before any thing could be done effectually to ſave his life.

The other was not ſo bad, his Limbs, his Briſket, Belly and Sheath were ſcorched, and alſo run a hot ſcalding water in great plenty, his fever was not ſo violent, neither was he totally off his Stomach, but would pick a little hay, eat maſhes, and drink water-gruel. He was bled, and had ſeveral glyſters to abate the fever, with Sal Prunellæ in his gruel. The burnt parts were dreſſed with the following mixture, *viz.*

Two ounces of Crude Sal Armoniack, boiled in a quart of Water a few minutes, and then mixed with a quart of Spirit of Wine, mixed gradually.

With this his ſores were bathed ſeveral times a day, which brought them to digeſt and run through the parched ſkin, a great deal of which came off; but in the end without leaving any great blemiſh. In places where the Sal Armoniack cannot be had, common Salt may be ſubſtituted, only doubling the quantity, and brandy or rum may be uſed inſtead of the rectified Spirits; and ointment of Elder, or Linſeed Oil to anoint the burnt parts after the heat and inflammation is gone, to looſen the ſcabs.

CHAP.

CHAP. XII.

Of Ulcers.

AN ulcer is generally defin'd a ſolution of continuity in ſome fleſhy part of the body, with loſs of ſubſtance proceeding from an internal cauſe; and in the bony parts, when that is grown ſpungy like fleſh it is called a *caries*, which may properly enough be term'd an ulcer in the Bone. An ulcer defin'd.

BUT although properly an ulcer is that which proceeds from a vitiated blood, yet all kind of ſores are alſo reckoned ulcers, when they degenerate and contract an ill diſpoſition, whether they take their origin from an internal or external malady; ſo that they are of various kinds, and are owing to different cauſes, as wounds, bruiſes, and other accidents, ill treated or neglected; and likewiſe to a depravity of the Blood and Juices, which firſt produce tumors, and theſe in the end turn to ulcers. Of this kind are the poll-evil, fiſtula, navel gall, quittors, grapy heels, farcy ſores, and others, where the Blood and Juices are deprav'd. Some ulcers are alſo internal in the Lungs, the Liver and Kidneys, and other Viſcera, where they produce waſtes and decays, and ſome are among the Joints and Ligaments. The cauſes of Ulcers.

There are alſo other diſtinctions made uſe of in deſcribing ulcers, *viz.* ſimple and compound, ſinuous and cavernous, fiſtulous, putrid, ſcrophulous and cancerous. A ſimple ulcer is ſuperficial, attended only with foulneſs, hard or uneven edges raiſed above the ſurface of the ſkin. A complicated ulcer properly is when not only the fleſh is ulcerated, but a caries and putrefaction appears in the bone, with other ſymptoms. A cavernous ulcer is that which has a ſmall narrow entrance, with a wide ſpreading bottom. Thoſe that run a-ſlant, proceeding from abſceſſes between the Muſcles, or their Tendons, are called ſinuous ulcers; and thoſe that are ſmooth and callous on the inſide, and run in ſeveral meanders, that meet one another like a coney-borough, are called fiſtulous. And where there is a great afflux of fœtid ſtinking matter, with ſwelling inflammation and inward ſickneſs, it denotes putrefaction, from whence ſuch ulcers are called putrid: Cancerous and ſcrophulous ulcers are uſually ſeated on the Glands and Kernels, and may be diſtinguiſhed by their proper ſigns and diagnoſticks; the ſcrophulous ulcer being more ſlow in its effects, and leſs offenſive; whereas the cancer- The different kinds of ulcers.

grows ſuddenly, and makes great havock on the part, and on the whole conſtitution. Varicous ulcers are ſituated among the Veins, and are always ſoft and bloody; of this kind are many of thoſe that happen to Horſes in the farcy, and ſometimes in ſurfeits, when they proceed from a plethora and fulneſs of blood.

The prognoſticks. As for the prognoſticks, ſimple and ſuperficial ulcers on the ſkin are no ways dangerous, eſpecially when the Blood is not greatly in fault; but when the edge riſes above the ſurface, and grows callous, they require ſome time before theſe can be brought ſmooth, and fit to be cicatriz'd. An ulcer or caries in the Bone is ordinarily more tedious and difficult to cure than an ulcer in the Fleſh, and the difficulty is more or leſs, in proportion to its ſituation, or according to the ſtate of the Blood, and the cauſes from whence it proceeds: Cavernous ulcers often become ſo, merely by their ſituation in places where bandage cannot be apply'd, but are not ſo dangerous as ſinuous ulcers, eſpecially when the ſinuoſities terminate near the joint, for then they are often attended with great difficulties: Fiſtulous ulcers are attended with all the ſame difficulties, or rather greater, being often ſituated among the Joints, and other dangerous places, which to Horſes are of bad conſequence; and, for the moſt part, renders them of little uſe, even when a cure is effected. Putrid ulcers are always dangerous, as proceeding from a deprav'd Blood; and when they turn cadaverous, and diſcharge very great quantities of fœtid ſtinking matter, are apt to end in mortification: Cancerous ulcers are of no leſs ill conſequence, only that there is more reſpite given, for Horſes will live languiſhing a conſiderable time with cancerous ulcers, as in ſome kind of glanders, and other ulcers I have ſeen in the glandulous parts, and ſometimes in the farcy, till they are quite extenuated, and the cure in ſuch caſes is for the moſt part impracticable: Varicous ulcers among the blood-veſſels are ſpungy, and hard to digeſt, being for the moſt part ſoak'd with a bloody ichor; of this kind are alſo ſome of thoſe that creep along the Veins in the Limbs, where they are troubleſome and difficult; but a ſingle varicous ulcer may be eaſily healed and cicatriz'd, and is no ways dangerous.

Having premiſed theſe things in general with reſpect to ulcers, I ſhall next proceed to give ſome inſight into the cure, wherein I ſhall be as brief as poſſible, in regard thoſe that are the moſt peculiar to Horſes will be treated at ſome length; ſuch as the poll-evil, the fiſtula, on the withers, the glanders, quittor, and others that derive their origin from tumors; and therefore I ſhall only here lay down ſome general directions, ſuited to their different

different kinds as they have been deſcrib'd, beginning with the moſt ſimple, and proceeding to thoſe that are the moſt complicated.

A SIMPLE ulcer ſeldom needs any other method than to waſh it with Spirit of Wine, and then to dreſs it with pledgits ſpread with turpentine and honey. If there be an itching with little ſmall pimples, mix with every four ounces of the digeſtive one dram of verdegreaſe in very fine powder, and apply it once a day, or once in two days, if the running be ſmall; if little papillæ or pimples ariſe in the bottom of the ulcer of a faint red-colour, let your dreſſing be mixed with precipitate; *viz.* a dram of precipitate in fine powder to every two ounces of the digeſtive. If the ulcer be deep, and does not fill up in a kindly manner, as happens to ſome weak declining conſtitutions, the following ointment will be proper. The Method of curing ulcers in their different kinds.

Take common Turpentine four ounces, mix it with the yolks of two Eggs, and incorporate well together; then add half an ounce of Myrrh, and two drams of Maſtick or Frankincence in fine powder, and a ſufficient quantity of Tincture of Myrrh to bring it into a due conſiſtence.

THE ulcer may be dreſſed every other day with this digeſtive, waſhing firſt with Spirit of Wine, or Tincture of Myrrh.

THE common Baſilicon, made of pitch, roſin and bees-wax, with oil inſtead of hogs lard, as directed in Mr. *Cheſelden*'s eſſay, will be proper to incarn theſe ulcers, where there is a poor weak blood. The common yellow Baſilicon, or the *Unguentum Aureum* will do the ſame: The yellow Baſilicon is compounded in the following manner, and not only makes a proper dreſſing for ſuch ulcers, but is uſeful in many other reſpects, as will be hereafter ſhewn.

Take of yellow Wax and Roſin of the Pine-tree, of each three pounds; of *Straſburg* Turpentine twelve ounces; of Linſeed Oil three pounds ſix ounces; melt them over a ſlow fire, then put in three pounds of *Burgundy* Pitch, and let them melt into an ointment.

THE *Unguentum Aureum*, or golden ointment, is as follows in the *London* Diſpenſatory.

Take of yellow Wax half a pound; common Oil two pounds; of Turpentine two ounces; of the roſin of the Pine-tree, and Gum Colophony,

phony, of each an ounce and a half; of Frankincence and Maſtick, of each an ounce; ſaffron one dram.

MELT the wax in the oil, then put in the turpentine, and let them boil together; and after they have ſtood to cool a little, ſift in the maſtick and frankincence in fine powder; and laſt of all add the ſaffron, ſtirring them about with a wooden ſpatula, till they are thoroughly mixed and incorporated.

THE common, or black baſilicon, is thus made.

Take yellow Wax, fat Roſin and Pitch, of each half a pound; oil of Olive nine ounces; melt them together, and ſtrain thro' a piece of canvaſs, to clear it from the gritty part of the Pitch.

ANY of theſe will help to fill up thoſe ulcers that are difficult to incarn, eſpecially if proper things at the ſame time be adminiſtred inwardly, to render the Horſe's blood more balſamick; *viz.* Antimony and G. *Guiacum*, of each equal quantities, to be divided into ounce doſes; let one of theſe be given every day: Let his diet be good and nouriſhing; *viz.* the beſt hay and oats that can be got, and let him often have water-gruel to drink. Tar water may alſo be very proper in all ſuch caſes, which any Horſe will drink, when he has been a little while uſed to it.

ON the other hand, when an ulcer fills up too faſt, and breeds fungous fleſh, it may be repreſſed with red precipitate and burnt allum in fine powder, of each equal quantities, or with precipitate mixed with baſilicon. If the *Fungus* be rank and ſtubborn, the ulcer may be dreſſed with lint or tow dipped in Vitriol water, then wrung out dry, and laid to the ulcer. If the edges be callous, and make a kind of brim round the ulcer, precipitate dreſſings always do the beſt; for which purpoſe,

Take either the black or yellow Baſilicon, four ounces; oil of Turpentine, one ounce; mix theſe together, and then add three drams, or half an ounce of red Precipitate in fine powder.

THIS is to be ſpread on Pledgits of tow, which ſhould be large enough to cover all the brims of the ulcer: I always found this method ſucceed better with Horſes, than either cutting the callous edges, or burning them down with cauſticks, or with the actual cautery; it is indeed ſomewhat ſlower, but more ſafe, not being ſo apt to inflame, which, inſtead of deſtroying

deſtroying the calloſities, frequently brings a freſh flux of humors, and renders theſe ulcers more obſtinate, and liable to freſh fungus's, and other accidents, than they were before.

Cavernous ulcers. CAVERNOUS ulcers, which are deep, narrow at their entrance, and wide at bottom, require to be laid open, or elſe the orifice ſhould be widened with a tent made of dry ſponge, and this inlarged by degrees, till no matter can be neſtled and conceal'd, as in a pit or well, which is ordinarily the caſe of cavernous ulcers: If the ulcer be in ſuch a ſituation, that it can be laid open with ſafety, and the Blood in a good diſpoſition, it may be cured with the ſame eaſe as a fleſh wound, obſerving the ſame method in caſe of fungus's, or in caſe it does not incarn and fill up, as has been already directed; and if it be found by ſearching, that it has alſo ſinuoſities, it ought to be treated in the following manner, as a ſinuous ulcer.

Sinuous ulcers. SINUOUS ulcers ſhould alſo be laid open without loſs of time; if injections fail, and where bandage cannot be uſed to purpoſe; for when they are ſuffered to continue without cure, they run deep, and oftentimes ſo much a-ſlant among the Tendons and Interſtices of the Muſcles, as at laſt to make their way among the ſinuoſities of the Bones, which renders their cure both tedious and difficult, and the inciſions into them dangerous, without a competent knowledge in anatomy.

Fiſtulous ulcers. FISTULOUS ulcers often have their origin and progreſs after this manner; firſt a tumour, that forms an abſceſs; and if this is not cured by inciſion, and proper dreſſings, it runs deeper, and forms a ſinuous ulcer; and when a ſinuous ulcer comes to be of a long ſtanding, or when it happens to a conſtitution, where the Juices are more than ordinarily ſharp and corroſive, it gathers in ſeveral ſinuoſities, and makes its way from one to another by little ſmall tubes, or communicating paſſages, and forms a fiſtulous ulcer, wherein the inſide is generally lin'd over, and glaz'd with a calloſity; ſo that no re-union can be made, till theſe communicating pipes or canals are laid in one, and their calloſities deſtroy'd, which after proper inciſion may be done with powder of red precipitate, or with pledgits, dipped in a ſolution of blue Vitriol, waſhing the ulcer every time it is dreſs'd with Spirit of Wine, or Tincture of Myrrh; and, where there is an ill diſpoſition, with Phagedenick Water, which may be made with two drams of corroſive ſublimate, (known to the farriers by the name of White Mercury) diſſolv'd in a quart of Lime-water; and, in ſome obſtinate caſes, it may be made ſtronger by increaſing the quantity of the ſublimate.

SOMETIMES common impoſtumes are chang'd into ſinuous and fiſtulous ulcers, when theſe fall upon parts that naturally produce abſceſſes, which

Common impoſtumes often by ill management end in ulcers of the worſt kind.

of themſelves would perhaps have no ill tendency; but by introducing long hard tents, the muſcles are ſeparated in the ſame manner as a piece of timber is cleft with a wedge, and thus by tearing the membranes the abſceſs grows deeper, and even ſometimes runs into ſinus's that lie out of the way of common applications. The ſame thing is often helped on by frequent probing, for when an abſceſs is once formed, the ſwelling and relaxedneſs of the parts contiguous to it, and the weight of the matter gathered in it, cauſes an eaſy ſeparation of the Membranes ſo as to form very deep ſinuoſities; to prevent which, the parts ought in all ſuch caſes to be kept as firm and cloſe as they are able to bear, and by this method many bad accidents may be prevented. But the reader may conſult what I have obſerved in the cure of a pole-evil, and the fiſtula on the Withers, where this ſubject is more fully reduced to practice.

Putrid ulcers.

PUTRID ulcers always ſhew a malignant ſtate of the Blood, and often a decaying conſtitution, as well in Horſes as in men, and require internal means, ſuch as are proper in peſtilential and malignant diſtempers, or reſtoratives in weakly conſtitutions; and externally, ſometimes cataplaſms of Mithridate or *London* Treacle, eſpecially where the natural heat is abated, and the motion of the juices are become languid; and if there continues a great deadneſs and inſenſibility in the part, a deep inflammation, bliſters, and a gangrened water from the ulcer, it may be touched with Butter of Antimony, and in every other reſpect treated as a mortification.

Varicous ulcers.

VARICOUS ulcers are to be bathed with reſtringent fomentations made of Pomegranate or Oak Bark, Pomegranate Flowers, and buds of Red Roſes, of each a handful; Roch Allum and white Vitriol, of each an ounce; boiled in three pints of Vinegar to a quart, to be uſed by way of fomentation, warm once or twice a day. The matter of theſe ulcers is generally a thin bloody water, which will thicken or dry off by this method. If the veſſels continue relaxed after the ulcer is healed up, firing will be proper to ſtrengthen the part, by contracting the coats of the Veins that feed the ulcer; and in ſome caſes it may be made ſo deep as to cut off their communications, applying afterwards the rupture plaiſter mixed with a fourth part of Diachylon or De Minio. Watry ulcers which have ſome affinity to the varicous, have been treated of in the cure of the farcy.

Cancerous ulcers.

THE laſt I ſhall mention under this head, are thoſe of the cancerous kind. I have already taken notice of the cancerous ulcers that ſometimes come with the farcy and glanders; but beſides theſe ſome Horſes are ſubject to cancerous warts, which when they are deep ſeated, are apt to degenerate into true cancers. And I have alſo known cancers take their riſe

from rowels put in near the glandulous parts, particularly one on the breaſt of a Horſe, which after it was taken out left a conſiderable knotty uneven ſwelling with a ſtinking ichor, which continued in this manner for ſome time, when the Horſe did his buſineſs tolerably well; but being put upon ſome harder work than ordinary, the ſwelling increaſed and turned to a very rank obſtinate cancer, which ſoon proved mortal. Moſt of theſe fontanells or *French* rowels are only placed under the ſkin, and when the ſkin is well opened and ſeparated from all its adheſions with the finger, and the rowel not too large and hard, it is ſeldom attended with any bad accident. But in this probably the muſcular fleſh and glandulous parts had been wounded, and the rowel may have been hard and ſtiff, and ſo cauſed a continual preſſure, which with a cancerous Blood, might eaſily produce this effect, as a gangrenes and mortifications ſometimes proceed from the ſame cauſe.

An inſtance of a rowel turning cancerous.

I was once concerned with another very fine Horſe belonging to man of quality, that had a large cancerous ulcer, that took its origin from a cancerous wart on his Flank, near the ſhort ribs, on the near ſide; this ſeemed to have an adheſion to the tendinous parts of the Muſcles of the Belly, and to ſome of the uppermoſt inguinal glands; it had been cut off once before I ſaw it; but was grown as large as a penny loaf, and was every day growing bigger, knotty and uneven, with a bloody ſtinking ichor over all its ſurface. I declined at firſt to meddle, but being importuned by a very eminent ſurgeon to make trial, I cauſed an inſtrument to be made on purpoſe to extirpate it, the blade about an inch and a half broad, and ſix inches long, turned round on the face like a table knife, with a blunt rounded point, the face of the inſtrument being only uſed in this operation; and having all other things in readineſs, and the Horſe thrown on his oppoſite ſide in a riding houſe, upon a good quantity of ſtraw, I cauſed the farrier to paſs one crooked needle armed or threaded with a piece of ſtrong tape, through the bottom of the cancerated ſubſtance, and another croſsways, and by taking hold of the four ends, pulled the whole ſwelling outwards, ſo that it was cut off with one ſtroke, after the manner of a cancerated breaſt. This method of amputation was quite new to the farriers, with which they ſeemed very much pleaſed. It bled from ſeveral branches of ſmall arteries which had been greatly enlarged by a continual derivation of Blood to the ſwelling, (a thing uſual in almoſt all fleſhy ſubſtances) but this was ſoon ſtopped with little pledgits or buttons of lint, on which was ſpread white of eggs, and then ſtrewed with powder of blue Vitriol laid on the Mouths of the blood-veſſels, and over them a thick covering of dry tow. After three

Another inſtance of a cancer on a Horſe's Flank.

The manner of its cure.

three days it was opened and dreſſed with a proper digeſtive, and tho' it was flat and even when the ſubſtance was firſt cut off, it was now grown into a deep hole ſufficient to bury the half of a two-penny loaf, occaſioned by the great afflux of Blood, and the dependent ſituation of the ſore thickening and encreaſing, the bulk of the circumambient ſkin, and the *Membrana Adipoſa* and *Panicle* that lies under it. This luxuriant growth of fleſh was kept for ſome time within compaſs, by ſtrewing powder of red Precipitate upon it, and a digeſtive made with eight ounces of common Turpentine, four ounces of Honey, half an ounce of Verdigreaſe in fine powder, and two ounces of Tincture of Myrrh and Aloes. But this not being ſufficiently repreſſive, the cure went on but ſlowly; and tho' it was dreſſed every day after the firſt opening, yet it continued to run exceſſively, and the ſore had ſtill a cancerous look, and the matter was ſometimes mixed with a ſtinking bloody ichor; ſo that I ſubſtituted other dreſſings of lint made of flaxen cloth dipped and dryed ſeveral times in a ſolution of Roman Vitriol, till it was of a deep blue, this was laid dry over the ſore every day, and over that a thick cover of tow, above which was a canvaſs bolſter, bound round with a broad woollen ſurcingle, by which it was cicatrized and cured in a ſhort time, leaving a ſmall bald place no bigger than a half crown piece, which I imagine to have been the original ſize of the wart from whence it took its riſe. This Horſe continued well two or three years, but having two or three more dry warts when this was extirpated, particularly one on the inſide of his Thigh, which having a communication with the inguinal glands, turned moiſt with a cancerous ichor, and began to ſwell, which cauſed the gentleman to part with him. This was a very extraordinary caſe, and ſuch as I believe ſeldom happens; for I have known ſeveral moiſt warts of ſmall ſize, cut off with a knife or with a ligature tied tight round the root, without any return or other ill effect; but theſe were generally ſuperficial on the ſkin and not deep rooted. However, I look upon it as the beſt way always to extirpate ſuch things as ſoon as poſſible, to prevent the Blood being contaminated by them, which I believe ſometimes happens when they grow to any ſize, and ſpread their roots inwards among the glands and muſcles.

A cancerous wart on the Noſe of a Horſe.

I was ſome years ago adviſed with in the caſe of a Horſe that had a cancerous wart on the inſide of one of his noſtrils, which began like a very ſmall moiſt tetter or warble about the bigneſs of a pea; but in the ſpace of ſome months, grew as large as a common-ſized fig, with a bloody ſtinking ichor, and induced a ſwelling and thickneſs into that noſtril and upwards towards his Eye. This was cured with great difficulty, by burning and

cauſtick

cauſtick applications; and I have alſo obſerved a cancerous diſpoſition in a cankered Foot, putting forth an exuberant growth of new proud fleſh reſembling a colly-flower, every time it was dreſſed, notwithſtanding the dreſſings were chiefly *Aqua Fortis*, Oil of Vitriol, Butter of Antimony, and ſuch like things, aſſiſted with a cloſe ſtopping of the Foot. But theſe will be treated of in their proper place. I ſhall only mention one inſtance more of a Horſe that had a true cancer among the inguinal glands, on the inſide of his Thigh, that affected his Sheath, and the cavernous part of his Yard, which was full of uneven, hard, knotty tumours like ganglions or indurated kernels, the ulcer cancerous in all its ſymptoms. It had been of a long ſtanding before I ſaw it, for the Horſe was grown emaciate, lean, and hide-bound, and had little appetite. It was ſituated in ſuch manner, that I ſhould have hardly meddled with it, if I had ſeen it from the beginning. But a farrier undertook to cure it, under whoſe hands he died in a very ſhort time.

A cancer among the inguinal glands.

Of the Glanders.

THE glanders is a malignant ulcer, formed in the inſide of the Noſe of a Horſe, among the glands that ſerve to diſcharge impurities or other ſuperfluous matter from the Head and Lungs, and is generally accompanied with a ſwelling of the Kernels under the Jaws. The matter diſcharged is for the moſt part either yellow or greeniſh, or tinged with Blood, and when Horſes have been long glandered, that the bones and griſtles are grown foul, the matter then turns to a blackiſh colour, and becomes very fœtid and ſtinking. And this is what uſually paſſes for the *mourning of the Chine*, from a miſtaken notion of corruption and putrefaction of the Brain and Spinal Marrow.

The glanders deſcribed.

THE glanders may ſometimes proceed from colds ill cured, in Horſes that are naturally of a weak conſumptive habit; ſometimes from the ſtrangles, as in the caſes above deſcribed, when the tumors have been opened, before they were arrived to maturity, or when a Horſe has been overheated with exerciſe at the time when the ſtrangles were begun and coming upon him. All theſe things may produce incurable ulcerations in the Noſe, and an induration or hard ſwelling of the glands about the Neck and Throat, which can never be removed. Sometimes the glanders, or at leaſt a ſwelling of the kernels about the neck and throat, with a profuſe malignant running at the Noſe, appears ſuddenly from an epidemical

Some cauſes of the glanders.

fever, which ſoon turns mortal, of which I have known inſtances. But
The true nature of the glanders. the moſt common and uſual kind does not proceed from any of theſe cauſes, but from a bad diſpoſition in the Blood, which perhaps continuing for a conſiderable time unperceived, at laſt ſhews itſelf by a ſwelling of the glands under the Jaw-bones, and a running at the Noſe, without any other viſible ſymptom of ſickneſs or diſeaſe; and this is what properly conſtitutes the glanders in a Horſe, and is either of the ſcrophulous kind, the ſame with the evil, or elſe cancerous; both which I have met with in practice, and may be either hereditary, or the effect of hard labour and bad keeping.

The ſigns. THE ſigns are firſt a ſmall ſwelling of the gland or kernel, adhering cloſe to the inſide of the upper part of the Jaw-bone, with a running of a duſky yellow or greeniſh matter from the Noſtril on the ſame ſide, the other being for the moſt part extremely dry, and without the leaſt moiſture, or humidity; unleſs when the diſtemper proceeds from any of the accidents abovementioned, and then the glands are generally ſwelled on both ſides, and the running alſo proceeds equally from both Noſtrils. Sometimes the running at the Noſe comes before the ſwelling, or when the kernel does not appear to be bigger than a hazlenut, and ſometimes the kernel riſes cloſe to the Jaw-bone, fixed and immoveable, and grows to a pretty large ſize before the running begins to appear. It is alſo to be remarked, that a Horſe is ſeldom ſeized with the true glanders, till he is ſeven years old or upwards, unleſs it comes by infection or ſome ill management, againſt which no time or period of a Horſe's age can be proof. A glandered Horſe ſeldom coughs or has any of the uſual ſymptoms of a cold, but in every other reſpect appears to be healthy and ſound, till the diſtemper has been of ſome continuance, and then the Horſe looſes his fleſh, his Eyes look dead, his hair begins to ſtare and fall off from his tail and mane, with all the other ſymptoms of approaching death.

The prognoſticks. THIS diſtemper is always dangerous and ſeldom cured, and is moſt of all ſo when old Horſes are ſeized, that have been hard worked and poorly fed, ſo as both to empoveriſh and contaminate their Blood. But when it comes upon a plethora or fulneſs of Blood, the cure may be more eaſy, at leaſt ſome trial may be made. The glander that comes by infection, bids fairer for a cure than when it is the effect of a long continued ill habit. Some Horſes are in a declining way for a conſiderable time before the glanders appear, and when it is ſo, the caſe is deſperate. It is always a bad ſign in the glanders, when the matter ſticks to the inſide of the Noſtrils, like glew or ſtiff paſte. When the inſide of the Noſe is raw

and looks of a livid or lead colour, and when the matter becomes bloody and ſtinks, it is a ſign of a cancer; and when it looks of an aſh colour, the bones and griſtles are then corrupted and rotten; in all which circumſtances it would be in vain to attempt a cure.

The glander is looked upon as the moſt infectious of all other maladies that can happen to a Horſe, and it is certainly ſo at ſome ſeaſons more than others; however, I have known glander'd Horſes, that were never cured, ſtand a conſiderable time along with ſound Horſes, thro' negligence or ignorance of the diſtemper, thinking it only to be an inveterate cold, and yet no harm happen. On the other hand, I have known a glander'd Horſe infect every one that has ſtood near him in the ſame ſtable; and I have alſo known ſound Horſes carried into a ſtable where glander'd Horſes have ſtood, and by that means catch'd the infection, tho' the ſtable has been clean'd and air'd before they were brought into it; and other Horſes that have been ſet up along with them in the ſame ſtable, and in the very ſtalls where the glander'd Horſes ſtood, have eſcap'd the infection. We can be at no great loſs for this infectious and poiſonable quality in the glanders, when the diſtemper is epidemical, and the effect of a peſtilential ſickneſs; but when it is otherwiſe, that the glanders only proceeds from poorneſs of Blood, an ill habit of body, or ſome accidental cauſe, how that kind ſhould prove infectious is not ſo eaſy to be accounted for. It is certain ſome conſtitutions, both of men, and among the brute creatures, are more ſuſceptible of infection than others, and may alſo receive the contagion more readily at one time than another: To enter upon the reaſons would require a large diſquiſition, and ſuch as might poſſibly be built only on probable conjectures, of which kind many diſcuſſions on phyſical ſubjects are often grounded, and therefore the beſt precautions are thoſe taken from facts. I remember one very remarkable inſtance to this purpoſe in my own knowledge; about 37 years ago I happened to be along with an eminent phyſician, opening a ſailor that died in St. *Bartholomew*'s hoſpital, who had a very large impoſthume in his Liver, that broke while we were endeavouring to clear it from the parts to which it adher'd, in order to take it out whole; the matter, which was very large in quantity, run over both our hands; my own hands ſuffered nothing by this accident; but a dry ſcurf appeared the next day all over the back of the gentleman's right hand whom I aſſiſted, which was placed under the Liver with mine, when the impoſthume broke; this ſcurf ſoon peel'd off, and the *Cuticula* underneath look'd red, and was often covered with freſh ſcales, like the taint of a venereal infection, and continued in this manner for ſeveral months, till it was cured with mercurial applications.

The glanders the moſt infectious of all other diſtempers that can happen to a Horſe.

THERE are ſeveral inſtances recorded by phyſicians and ſurgeons, of perſons that have been infected by ulcerated cancers; *viz.* by converſing much, or lying in bed with ſuch as have laboured long under the miſeries of this diſtemper; and we have a very noted inſtance of an eminent phyſician in *London*, who was infected by his wife, who died of a cancer in her breaſt; one very noted, and another remarkable caſe, was that of Mr. *Smith*, one of the ſurgeons of St. *Thomas*'s hoſpital, mentioned by Dr. *Turner* in his Treatiſe of Surgery, vol. i. page 84, who having touched the corroſive matter of a cancered breaſt with his tongue, could never get quit of the ſtench to the day of his death. And it is not impoſſible but other cadaverous ſores and ulcers that ſend forth a continual noiſome ſmell may have more or leſs the ſame effect, on ſome conſtitutions; and tho' the infection may not always ſhew itſelf in the ſame manner, and with the ſame direct ſymptoms as in thoſe ſubjects from whence it was received, yet it may induce others of an evil or even of a very fatal tendency.

How Horſes may be more eaſily infected than men.

BUT with regard to Horſes, it is reaſonable to ſuppoſe they may be yet more eaſily infected than men, and it even appears ſo in fact from what we find by experience; and this may proceed not only from the largeneſs of their veſſels, which renders them more ſuſceptible of receiving poiſonable ſteams, but from many other concurring cauſes. Moſt ſtables are generally warm in the coldeſt weather, eſpecially if there be any number of Horſes to fill up the ſtalls; and in the ſummer they are extremely hot, whereby Horſes in this way of keeping have their pores always open, ſo as they may the more eaſily receive impreſſions from other Horſes that are near them. A Horſe has alſo an uncommon delicacy in ſmelling, and very acute in diſtinguiſhing things that way, ſo that he may the more eaſily draw in infectious ſteams by the Noſe. Many Horſes are apt to lick one anothers ſores, like dogs, but eſpecially other Horſe's Noſes, when they ſee them ſnotty; and it is well known how troubleſome ſome are in licking their own rowels. That all theſe things may endanger Horſes is very plain, eſpecially when we conſider the numberleſs twigs of nerves that are ſpread all over the Tongue and inſide of the Noſe, whereby the poiſon and infection is the more eaſily communicated; and therefore tho' we have inſtances of Horſes that have eſaped any viſible taint or infection, from ſtanding along with glandered Horſes, yet the firſt and principal care ought to be to ſeparate them from all others that are ſound, to avoid danger.

Cautions neceſſary to prevent Horſes being infected.

Theſe following cautions are alſo neceſſary, *viz.* all the litter where a glandered Horſe has ſtood ought to be taken away, the ſtable thoroughly cleaned, the manger and rack-ſtaves all ſcraped and ſcalded with hot ſoap ſuds,

ſuds, and then waſhed with water wherein tobacco has been ſteeped. The ſtanding fumed with burning pitch, ſulphur, or any other combuſtible matter, and the ſtable doors and windows kept open till it has been ſufficiently aired. The hoods, cloathing, and all other appurtenances, as collars, ſurcingles, and ſuch like, ſhould alſo be removed, and if the hoods and cloathing be made of wool, they ought to be clean ſcoured and well aired before they are uſed to any other Horſe; for nothing is thought to harbour infection more than wool, cotton and ſuch like ſoft things. The pail ſhould be well ſcalded with boiling water, or rather to be ſtaved and burnt; and if I had a glandered Horſe of my own, I ſhould chuſe to burn all his cloathing. Theſe precautions are not only neceſſary in the glanders, but in all diſtempers that are epidemical, or where there is any the leaſt ſuſpicion of infectiouſneſs.

Several fruitleſs trials made for the cure of the glanders.

The glanders is generally ſo fatal to Horſes, that I need not ſpend much time in laying down any method for a cure. I have indeed known many trials made for that purpoſe, but for the moſt part without effect. Some ſuppoſing the glanders to be only an ineveterate cold, treat it altogether as ſuch; others endeavouring to deſtroy the kernel under the Jaw-bone, with the actual or potential cautery, think by that means to cut off the ſupply of matter that feeds the diſtemper; but the ſwelling generally grows worſe after theſe operations, and if it happens to be diminiſhed for ſometime, the running ſuffers no manner of abatement thereby, as I have often obſerved; but rather increaſes and acquires a worſe diſpoſition than it had before. Some make a mixture of oil and vinegar, and uſe it by way of injection, others make uſe of ſharp waters for the ſame purpoſe. But while theſe things can neither be eaſily conveyed by a ſyrringe, nor by any other way, to the ſeat of the diſtemper, they prove of little or no benefit alone, but rather aggravate all the ſymptoms, by deriving a greater load upon the glands about the Neck and Throat than before, which often renders the diſtemper more obſtinate.

Inward means neceſſary in the glanders.

As the glanders is for the moſt part either of a ſcrophulous or cancerous nature, and by that means rooted in the Blood, therefore it is impoſſible to remove it any other way than by inward means, and theſe ſuch as few practitioners in farriery can be acquainted with; and therefore I ſhall conclude what I have further to ſay on this ſubject, with the method uſed in the cure of two glandered Horſes, whereby will be ſhewn how far the power of medicine, with a right management of their diet and exerciſe, may contribute to the removal of that obſtinate and for the moſt part incurable diſtemper.

Both

Two Horſes cured of the glanders.

Both theſe Horſes were in the firſt troop of guards. One of them had been in a ſtable where two or three Horſes had dy'd of this malady. He was coming eight, and had no viſible ailment beſides a knot under his Jaws, which was pretty large, and a naſty foul running at his Noſe on the ſame ſide. About the ſame time the troop Horſes were removed into new ſtables, he was left in one of the old by himſelf as a diſtemper'd Horſe, and continued there alone for ſeveral months, without any abatement of the ſymptoms; but the winter and the damp weather drawing on, he catch'd a violent cold along with his other diſtemper. His Coat began to ſtare, and loſt both his appetite and his fleſh, which he never did before; he grew exceeding weak, and began to have a deadneſs in his looks, ſo that we were concluding to have him ſhot as incurable; but being a very fine troop Horſe, I reſolved to make a further trial, and in order to this had him removed to an infirmary ſtable belonging to the troop, where he could be kept warm, and in the hearing of the other Horſes, which chear'd him greatly, and after he got clear of his cold with proper pectorals, was walk'd out every day, and had his exerciſe in the free open air. He was conſtantly curry'd and dreſs'd thoroughly, and had his rack and manger often ſcrap'd and waſh'd, and his pail clean'd and waſh'd almoſt every time it was uſed. This induced him to eat and drink what was ſufficient, and by that means contributed greatly to his recovery; for altho' there was little alteration either of the ſwelling under his Jaws, or the running all the winter, yet he got ſtrength daily, his Fleſh grew firm, and his Coat began to look ſmooth and ſhining. His medicines were chiefly Balls compounded of Cinabar of Antimony, Gum Guiacum, Myrrh, Saffron, and Caſtile Soap; and ſometimes Drinks of Guiacum, Rhaponticum, Dock Root boil'd in Spring Water, and ſometimes in Lime Water; and to heal the rawneſs and eroſion on the inſide of his Noſe, was ſometimes uſed an Injection of Vinegar, Spirit of Wine, and Mel Ægyptiacum; ſo that in the ſpring following, the kernel began to leſſen, the running at the Noſe look'd whiter and of a better conſiſtence, and towards the end of the ſummer the kernel was no bigger than a hazlenut, and the running for the moſt part quite gone, and at laſt ended in ſome few drops of clear water, which uſed to diſtil now and then from his Noſe; ſo that it was ſomewhat above a year before the cure was compleated, and very near twelve months more before he durſt be truſted to go into the ranks for fear of the other Horſes, till the day that the Diſtillers act commenced, when he was ſent among the reſt, with the parties that were ordered out upon that occaſion, and did his duty conſtantly afterwards without the leaſt return of the diſtemper, or harm to any of his companions.

The

The other Horſe baffled all the efforts I was able to make for ſix or ſeven months, tho' he was conſtantly ply'd with the ſame medicines, and the ſame care and attendance, till at laſt he broke out in biles in ſeveral places, which every one that ſaw him pronounc'd to be the farcy, tho' I was of another mind, for theſe never attack'd or followed the courſe of the Veins, but appear'd in ſome Interſtices between the Tendons of the Muſcles, near their inſertion both before and behind. The matter was laudable and of a good conſiſtence, and tho' many of theſe biles came in a ſucceſſion one after another, yet thoſe that broke ſoon healed up, and without the help of any other outward application beſides waſhing them with Spirit of Wine. The Horſe grew hearty and active, the kernel and the running at his Noſe leſſened and abated gradually: I imputed theſe critical biles to the amendment and new vigor of his Blood, from whence I expected by continuing the ſame things inwardly, a perfect depuration, which accordingly happened, for in a few months after this he was perfectly cured, and did all his duty as before.

I have related theſe two caſes, only to ſhew the difficulty and trouble of curing the glanders, even where the ſymptoms are favourable; for among the many glander'd Horſes I have ſeen, perhaps not one in fifty were to be meddled with, and therefore I ſhould never adviſe any one that has a Horſe truly glandered ſo much as to attempt a cure. For conſidering the length of time, the expence of keeping, and medicines, the conſtant care and attendance that is neceſſary in all ſuch caſes, and the uncertainty of the iſſue, conſidering alſo the continual fear of their infecting other Horſes, and many more inconveniencies, it will be found the beſt and ſafeſt way to beſtow all ſuch Horſes on the Dogs. For as a true glanders ſeldom ſhews itſelf on a Horſe till he is old or full aged, it may be reckoned an imperfect criſis of ſome chronical diſtemper, and in that view may hold ſome affinity with the evil, the cancer, ſcorbutick and leprous ulcers in the human body, as has been obſerved, which are more or leſs fatal, according to the aggravation of the ſymptoms, and the parts of the Body on which they fall, and at beſt only diſcover an impotent ſtruggle in nature, to overcome ſome riveted evil diſpoſition in the Blood, where the ordinary diſcharges have been for a long time faulty, and the Glands incapable of doing their offices perfectly. Of the ſame kind we may ſuppoſe many other diſtempers we ſee daily in old Horſes; when the flow of humors falls downwards, then the Legs ſwell, and ſometimes form continued ulcers that are not eaſily, or perhaps ſafely removed; ſometimes the canker in the Foot of a Horſe, when it does not come by accidents, is often of the ſame origin and tendency; and I have ſeen the Foot cancerous, likewiſe fiſtulous ulcers both in the Pole and Withers,

and

and in the Spines of the Back and Loins, when they proceed from an ill habit, and vitiated juices, often prove difficult and hard to cure. But of theſe in their proper place.

Diſcoveries made in opening glander'd Horſes.

In opening glandered Horſes, I have obſerved the Glands on the inſide of the Noſe, which in their natural ſtate are exceeding ſmall and covered with a delicate fine Membrane, all thickened and inlarged, and the paſſage of the upper part of the Noſe, as if it was choak'd up with a piece of ſponge, in ſome of a livid colour covered with a fœtid ſtinking matter. The Septum Naſi, and all the other Bones and Cartilages, turn'd carious and ſpungy, all the larger Glands alſo ulcerated, and in ſome the Thymus, or Sweet-Bread, which lines the inſide of the Breaſt, full of putrid ulcers from corrupted Lymph, and in others the Lungs alſo ulcerated, and full of tubercles or knots, with all the veſtiges of an univerſal rot.

Horſes ſubject to other diſtempers in their Noſes.

Horses are ſometimes ſubject to other maladies that affect their Noſes, beſides the glanders, particularly what the farriers call the canker in the Noſe, which I think comes the neareſt to that which in Man is called the *ozena*. Some few of theſe caſes have fallen in my way; they diſcharge an ugly ſtinking matter, and the ulcer looks black like an eſcar made with a cauſtick. The way to cure this canker is to purge, and give Antimony inwardly, and apply pellets of Lint or Tow to the part, dip'd in Honey of Roſes, Mel Ægyptiacum, and Tincture of Myrrh, equal quantities, thruſt up with a probe, which may be renewed as often as they drop out. This ſort of ulcer is ſeldom attended with a ſwelling of the Glands, unleſs it be neglected, in which caſe it may indeed end in the glanders. If it comes by the ſtinging of a Waſp or Fly, which ſometimes happens at graſs, ſyringing the Horſe's Noſtril with a little ſharp Water will do the buſineſs without any further trouble. The ſharp Water may be made of Spirit of Wine and Vinegar, of each a quarter of a pint, the bigneſs of a walnut of burnt Allum, and half a ſpoonful of Honey, ſhaking the Vial when it is uſed.

Sometimes we alſo meet with a polipus in the inſide of a Horſe's Noſe, tho' I believe this happens but ſeldom. It is a fleſhy ſubſtance of a dark yellow, or red colour, with one or more roots that faſten it to the Membranes. I never ſaw but one, which I extracted not long ago from a Horſe's Noſe, that was juſt taken up from graſs; the thickeſt part of it was about three quarters of an inch diameter, which I drew out with my finger and thumb without an inſtrument, and had but two roots, one pretty large and the other ſmall; it bled pretty much for two or three days, while the milder applications were uſed, but it was ſoon cured with this injection, *viz.* Spirit of Wine and Vinegar, of each four ounces; White Vitriol diſſolv'd in Water,

ter, two drams; Ægyptiacum, one dram; Honey, two ounces. This was injected once a day for about ten or twelve days, but theſe are in the end apt to breed ulcers, which continue running many years like the glanders, but are not infectious.

Of the Poll-Evil.

THE Poll-Evil is an abſceſs near the Poll of a Horſe, form'd in the Sinus's between the Noll Bone, and the uppermoſt Vertebra of the Neck. The Poll-Evil, its deſcription and ſituation.

IT is eaſily known by the ſwelling on the Poll, which is ſometimes very large, and reaches downwards towards the Vives; and when it comes to be opened, or if it break of itſelf, it always diſcharges great quantities of matter of a viſcid conſiſtence not unlike dirty ſize.

THE cauſes are various; ſometimes it proceeds from blows and bruiſes on the Poll, which afterwards feſter, and either through a fault in the Blood, or from neglect, turn to the poll-evil; ſometimes by being hurt with the collar, eſpecially when the collar happens to be new, and made of very thick ſtiff leather, where the edges of the ear-band are ſharp, and when the Blood happens to abound with ſharp and acrid ſalts, the leaſt irritation with ſuch things creates a painful itching, which is frequently accompany'd with ſwelling and impoſtumation. Sometimes the poll-evil comes by ſtraining the Muſcles and Ligaments of the Neck in drawing heavy loads. But that which truly conſtitutes the poll-evil, generally proceeds from one or other of theſe cauſes, *viz.* either from ſome violent fever, which caſts itſelf off critically upon the Poll, or from a decline when it happens to old Horſes, that have been worn out with hard fare, and hard labour, or from ſurfeits. In all which caſes, the cure will be found both difficult and troubleſome. The cauſes of the Poll Evil.

WHEN a Horſe ſwells on his Poll by reaſon of a blow or bruiſe, it may be eaſily cured, and the poll-evil prevented, only by faſtening back the ear-band of the collar, ſo as it may not preſs upon the part, and bathing it two or three times a-day with warm Vinegar or old Verjuice; and if the Hair be fretted off with an ouſing thro' the Skin, uſe two parts Vinegar, and one part rectify'd Spirit of Wine; by this method I have prevented many of theſe contuſions impoſtumating and turning to a poll-evil; but if there be an itching, and increaſe of the ſwelling, with heat and inflammation, then the ſafeſt way is firſt to bleed, and to apply Bread Poultices made with Milk and Elder Flowers, once or twice a-day, till the heat and itching are gone, The prognoſticks and cure.

and the ſwelling abated; this method, with the help of phyſick, will generally prevent ſuch ſwellings turning to the poll-evil.

But when the tumor has all the ſigns of ripening, and turning to an apoſteme, in that caſe neither bleeding nor purging is neceſſary, but may rather prove hurtful; and the beſt method is to bring it forward as ſoon as poſſible with poultices made of Rye Flower, Oatmeal, or Barleymeal, firſt pretty thick, and then into a proper conſiſtence, with Ointment of Marſhmallows, or with Hog's Lard, and Oil of Turpentine, but the Marſhmallow Ointment is the beſt. When the tumor is ripe and full of matter, it may either be opened, or ſuffered to break of itſelf, which I have always ſeen attended with the moſt ſucceſs, for then it is much eaſier to come to the ſource than when it is opened; and the notion that many have conceiv'd, of the matter corroding the parts by lying too long undiſcharg'd, is not always well grounded, for it ſeldom does more in the time it remains, than to bring a ſlough from the Tendons of the Muſcles, which I have always found as neceſſary to relieve the pain and anguiſh of the tendinous parts, as the ordinary matter of a boil or phlegmon is to relieve the membranous and more fleſhy parts, and renders the cure in the end more eaſy and expeditious. When it has been empty'd once or twice by moderate ſqueeſing, or ſo often as to give eaſe (for by the poſition of the matter, and the manner of its lodgment it will always fill again) it may then be laid open, wherein care ſhould be taken to keep as much as poſſible the direction of the Muſcles, and if poſſible avoid cutting the tendinous Ligament that runs along the Neck under the Mane; for if the Muſcles be cut acroſs, and the Ligament alſo wounded, the Horſe will go nigh to have a ſtiffneſs in the motion of his Head and Neck; and I can remember to have ſeen one that had his Head ſtand awry after the cure of a poll-evil, which muſt have happened by ſome ſuch accident, and therefore the beſt way, if the matter be gathered on both ſides, is to make an opening on both ſides, for the leaving the Ligament intire greatly facilitates the cure.

The Farrier ſhould be provided with a leaden or an iron Probe, made round and ſmooth at the end, and no ways ſtiff but pliable. Some Farriers do not take care to provide themſelves with proper inſtruments, but cut a Twig off an old Birch Broom and uſe it inſtead of a Probe, whereby they often do miſchief, for the Probe ſhould be uſed with all the care imaginable, otherwiſe by piercing the thin Membranes, a way may be eaſily made to form freſh abſceſſes which were not there before, and ſometimes in parts where the hurt they do cannot be eaſily remedied. The way to uſe the

Probe is to introduce it as gently as poſſible, and then to widen the Orifice ſo far as to be able to introduce the Finger. The Orifice may be widened either with an Inſtrument, or with a ſhort Tent made of dry Spunge; and if the matter be good and laudable like what runs from a fleſh wound, there may perhaps be no occaſion for any further operation, and no other dreſſing neceſſary beſides a common digeſtive made of Turpentine, Honey, and Tincture of Myrrh, ſtrewing it with ground Precipitate if the Fleſh grow too faſt. But if the matter flow in great quantity, and reſemble melted glew, or if it be of an oily conſiſtence, and the abſceſs fills as often as it is emptied, there will be need of a ſecond inciſion. In this operation, the farrier ſhould not go too deep with his Inſtrument, but uſe his Finger, and widen the wound with it as much as poſſible, and at the ſame time obſerve where there are any drains, and uſe a ſmall leaden Probe to try how far theſe reach; if they go but a little way, they will perhaps need little more beſides common dreſſings, but if they penetrate inwards between the Interſtices, near the Tendons of the Muſcles, it may be neceſſary to make a further inciſion, yet ſo as to avoid wounding the Tendons if by any means poſſible, that the bottom of the abſceſs or abſceſſes, if there be more than one, may be diſcovered.

What precautions are neceſſary in opening the poll-evil.

In the poll-evil, and all other deep abſceſſes, Tinctures, and other thin liquid mixtures, are to be prefer'd to unguents, linaments, or digeſtives of any kind that are of a thick conſiſtence, not only becauſe tinctures are more cleanſing, and do not promote the growth of fleſh ſo faſt as the other, but becauſe they paſs more eaſily into the more hidden parts of the abſceſs; and for this purpoſe, the following mixture is of ſingular benefit in the cure of all ſuch maladies.

Take White Wine Vinegar, and rectify'd Spirit of Wine, of each half a pint; half an ounce of White Vitriol diſſolved in a little Spring Water, Tincture of Myrrh four ounces; mix them together, and ſhake the Bottle every time it is uſed.

Let a little of this mixture be heated in a ladle, and waſh the abſceſs with ſome tow that has been well ſoak'd in it, filling it up with tow moiſtened in the ſame, which ſhould be laid in as looſe as poſſible, that the fleſh may have room to grow, pouring ſome of the ſame mixture all over the dreſſing. Sometimes bathing with this tincture makes an effectual cure, without the formality of any other dreſſing beſides covering the outſide with a pledgit or bolſter of dry tow. By this

means it can be done more frequently and with great eaſe, and is a benefit where there is a continual drain of ſharp humours to be often cleaned. In ſome caſes once or twice a day may be neceſſary, till the flux decreaſes and no ill diſpoſition appears from the ſore, after which bathing conſtantly with Spirit of Wine alone will perfect the cure, laying over the part a quantity of tow ſoaked in Vinegar and the white of Eggs beat together. This will ſerve inſtead of bandage, and lie as cloſe to the poll as a ſaddle will lie to the back, and come off and on with the ſame eaſe whenever there is occaſion to dreſs it. And for an outward cover a piece of woollen cloth, with two loops of liſt to go round the Horſe's Ears, and to be tied underneath with tapes.

The following mixture is yet more ſharp than the other, and may be uſed where the profuſion of matter is very great, and cannot be eaſily abated with an exceſſive growth of proud fleſh.

Take eight ounces of a ſolution of blue Vitriol; this is made by diſſolving half an ounce of Roman Vitriol in half a pint of ſpring water, pouring it off from the fœces or dregs; mix with this Spirit of Wine and Vinegar, of each ſix ounces; Tincture of Myrrh and Tincture of Euphorbium, of each an ounce.

This is to be uſed as the other, by waſhing the abſceſs with it often, till the matter flows in leſs quantity and comes to a good conſiſtence. I have often directed theſe ſharp mixtures to be uſed in the poll-evil and other foul abſceſſes with great ſucceſs; but if the proud fleſh be riſen very high, it muſt be cut out firſt, neither of theſe being ſtrong enough to deſtroy it in a Horſe, where it grows extremely tenacious; but when that is extirpated, the frequent uſe of theſe tinctures will for the moſt part prevent its growing again, and often make a cure without any other application, eſpecially if the Horſe be young and otherwiſe ſound.

Several uſeful remedies for the cure of the poll-evil.

The phagœdenick water (ſo called by the ſurgeons becauſe of its corroſive quality) is alſo of great uſe to cleanſe all ſuch foul ulcers. It is made by diſſolving two drams of corroſive Sublimate in a pint of Lime Water, waſhing with this, and then filling the abſceſs with looſe doſſils of tow ſoaked in Ægyptiacum and Oil of Turpentine, made hot, continuing in this method till the cure is effected.

But the moſt compendious way of curing the poll-evil, where there is an exceeding bad diſpoſition and a very great foulneſs, is by ſcalding, as the farriers

farriers term it. Several of our beſt farriers are now got into this method, and ſucceed very well in it. The manner is as follows,

Take Corroſive Sublimate, Verdegreaſe in fine powder, and Roman Vitriol pounded, of each two drams; green Copperas, half an ounce; Honey or Ægyptiacum, two ounces; Oil of Turpentine and Train Oil, of each eight ounces; rectified Spirit of Wine, four ounces; mix theſe together in a pint bottle for uſe.

Some make their ſcalding mixture milder, by uſing red Precipitate inſtead of Sublimate, and white Vitriol inſtead of the blew Vitriol; others leave out the Train Oil, and uſe only Oil of Turpentine and Linſeed Oil, which makes but little alteration; and ſome uſe with good ſucceſs a mixture of Verdegreaſe, Oil of Turpentine, Train Oil, and Oil of Vitriol, *viz.* Verdegreaſe, half an ounce; Train Oil, half a pint; Oil of Turpentine, four ounces; and Oil of Vitriol, two ounces.

The manner of ſcalding is firſt of all to clean the abſceſs very well, with a piece of ſpunge ſoaked in Vinegar and ſqueezed. Then put a ſufficient quantity of the mixture into a ladle with a ſpout or noſil, and when it is made ſcalding hot, pouring it into the abſceſs, cloſing the lips together with one or more ſtitches in proportion to its ſize. This is to remain ſo for ſeveral days, and if good matter appears, and not in an over great quantity, it will ſoon do well without any other dreſſing beſides bathing with Spirit of Wine. But if the matter begins to flow in great abundance, and of a thin viſcid conſiſtence, it will require to be ſcalded a ſecond time or oftener if the ſame ill diſpoſition continues. The corroſive ingredients, whereof theſe liquid mixtures are compounded, would be harſh to human fleſh, but agree very well with Horſes, whoſe fibres are more ſtiff and rigid, and abound more with oily and viſcid juices, which ought to be repreſſed; and therefore ſuch ſharp applications help greatly to contract the veſſels of the Tendons on the hind part of the Head and upper part of the Neck, which when apoſtemated, ſpew out a matter that can hardly be digeſted, nor the profuſion abated without the help of ſuch things, to which the additional heat of the fire greatly contributes. By this means the mouths of the veſſels are ſhut up, the gorged and relaxed fibres are ſtrengthened and reſtored to their natural tone and firmneſs, ſo that the divided parts ſoon meet together and fill up with a ſolid growth of new fleſh. This method of proceeding is chiefly uſeful when the poll-evil happens to be the criſis of an acute fever, or when it happens to Horſes that have

The ſucceſs of ſcalding for the poll-evil.

have been ſurfeited, or under ſome other chronical diſorder; for in all caſes proceeding from common accidents, cleanſing tinctures and frequent dreſſings will do the buſineſs.

A very extraordinary cure of a poll-evil that required ſcalding.

I ſhall here ſubjoin the caſe of a Horſe that was cured of a poll-evil by ſcalding, wherein are ſome very extraordinary circumſtances that will give further light into the nature of this malady, and the method how ſuch caſes ought to be treated, eſpecially when they proceed from ſome previous ſickneſs, which is often the cauſe of a poll-evil, tho' hitherto not much attended to by the practitioners in farriery.

This was a young troop Horſe that had been pampered for ſale, and had fallen into a very dangerous fever, attended with a great ſtupor and heavineſs, with a total loſs of appetite, and a loathing of all manner of food, and had but little relief till a large critical ſwelling roſe on his poll, at firſt about the bigneſs of a penny loaf, but in a few days grew to a much greater ſize; the weight of which made him ſink his Head as low as his manger, and by degrees the ſwelling grew ſo great that his muzzle came within a few inches of the ground, and roſe ſo ſuddenly all along his Neck, and down to his Shoulders and Fore-Legs, that it was impoſſible to raiſe his Head above a foot from the ground. His Neck meaſured above a quarter of a yard broad over his mane, his Shoulders were blown up to a monſtrous ſize, like ſome Horſes I have ſeen ſtaked under the arm, and indeed he grew ſuch a ſpectacle that all who ſaw him thought it was impoſſible he ſhould recover. But one thing ſtood much in his favour, that as the ſwelling increaſed his appetite grew better, and while he continued in that poſture with his Mouth to the ground, which was about three weeks before the tumor broke, he eat his whole allowance of hay every day, which was laid down before him a little at a time, and licked up bran and oats out of a flat baſket, ſo much as was ſufficient for a Horſe in health, that did no buſineſs; and drank plentifully of water-gruel, which was given by holding about half a pail-full at a time, edge-ways, that he might get his Head into it. When the tumor broke, it diſcharged a very large quantity of curdled matter at firſt, which ſoon changed to a viſcid duſkiſh ſlime; the orifice was on one ſide near the Noll-bone, tho' the matter had alſo a drain from the other ſide, and continued running for above a month or five weeks, in very great quantity, before the ſwelling of his Neck and Shoulders came down, and before he came to the free uſe of his Neck and Limbs, which were greatly gorged. The running by this time was much abated, but the matter of no good conſiſtence; and therefore having now no other diſorder beſides the abſceſs, and that reduced

to

to a moderate compaſs, I cauſed it to be laid open, and the part ſcalded in the manner already deſcribed. I deferred openning it all this time, tho' I was much ſollicited to have had it done ſooner; for I found by this delay his Blood was thoroughly cleanſed, and the diſtemper confined wholly to a ſingle part; whereas if it had been laid open ſooner, the anguiſh might again have been renewed, the diſcharge been leſs perfect, the ſwelling of the Neck and Shoulders would not have come down ſo well, and a great deal of the impacted juices might have been retained ſo as to keep the veſſels in thoſe parts gorg'd, and in ſuch a manner as might not have been eaſily removed, either by applications to the part, or by artificial drains and iſſues of any kind. After the firſt ſcald the matter was ſmall in quantity, and looked of a good colour and conſiſtence, but in ten days time it began to look thin and of a dirty colour again, ſo that I cauſed him to be ſcalded a ſecond time, after which it healed up, and he had three or four doſes of purging phyſick and ſome antimonial powders given him; but the part being ſtill weak, and the Horſe naturally full of motion, eſpecially with his Head, it ſwelled again ſome months afterwards and broke, which accident proceeded from this, that the muſcular fleſh was waſted more on one ſide of his pole than on the other, which gave ſome reſtraint in pulling down his Head, and conſequently cauſed freſh pain till the fleſh grew, and that the Muſcles on both ſides came to their proper equilibrium, which is abſolutely neceſſary for true motion; and tho' it broke out again once or twice afterwards, yet the ſwelling was only like a large warble, the matter was good and did not continue running above two or three days. And about a year afterwards the fleſh on one ſide was grown equal to the other, and the Horſe continued ſound and uſeful many years without any very viſible mark or deformity.

I have related this caſe to ſhew that it is very well worth while to ſet about the cure of a poll-evil in a young Horſe, eſpecially when it happens to be the criſis of a fever or any acute diſtemper, or when it proceeds from a blow or a bruiſe ill managed, or any other accident; but when the poll-evil is the effect of an old ſurfeit, when it happens to an old Horſe worn out with labour, or to a Horſe that has been a long time in any declining way, it will both prove difficult, and at the ſame time ſcarce worth the trouble and expence of a cure; for the poll-evil in ſuch circumſtances often, like the glanders and other putrid ulcers, ſeems only to be a weak effort of nature, rather to continue life than to reſtore health and ſtrength, and while endeavours are uſed to cure that diſtemper, others are generally increaſed. The humour indeed may be checked, but Horſes in theſe circumſtances

cumſtances are apt either to die in the cure or become uſeleſs, and ſometimes theſe abſceſſes in bad conſtitutions penetrate into parts ſo far out of reach, and are of ſuch a ſordid diſpoſition that they reſiſt all means whatever.

Of a Fiſtula on the Withers.

A fiſtula on the withers often no other than a ſinuous ulcer.

THIS malady is often to be met with among hackney and draught Horſes, but ſeldom among Horſes of value. Every large ſwelling on that part that comes to ſuppurate is for the moſt part called a fiſtula, tho' from what I have obſerved in moſt of theſe caſes, it is more frequently a ſinuous ulcer than a fiſtula.

IT uſually begins on the top of the withers, the ſwelling at its firſt appearance ſmall, but ſoon increaſes and ſpreads on both ſides, and often reaches downwards to the Shoulders, and forwards towards the Neck, forming an impoſtume, which by reaſon of its ſituation eaſily becomes ſinuous, unleſs great care be taken to prevent it. When the ſwelling riſes chiefly on one ſide, the impoſtume generally breeds on that ſide only, altho' the other ſide may alſo have ſome ſhare of the ſwelling, by reaſon of its vicinity; but when it riſes equally on both ſides, and inclines forwards towards the Neck, it then forms itſelf between the high ſpines, where there are many muſcular tendons, and ſometimes ſo deep as to have its chief ſeat in the ſinus's of the firſt or ſecond Vertebra of the Cheſt, and ſometimes in the fourth, and when the ſwelling lies forward the ulcer is often ſeated in the ſinuoſities of the lowermoſt Vertebra or Rack-bone of the Neck, and where it is a true fiſtula, there is generally matter gathered in all theſe ſinus's which have communication one with another.

The cauſes of a fiſtula on the withers.

THESE diſtempers on the withers take their riſe from various cauſes, ſometimes from bruiſes of the ſaddle, which being neglected or ill managed, gives birth to this malady. I have known a hot ſharp humor with eruptions, breed ſinuous and fiſtulous ulcers here, tho' this might alſo have been prevented by proper care; and ſometimes ſinuous and fiſtulous ulcers proceed from malignant fevers, whereby the vitiated juices are tranſlated or caſt off critically on the withers, in the ſame manner as ſometimes happens in the poll-evil.

The ſigns and prognoſticks.

WHEN impoſtumations and ulcers on the withers proceed from a bruiſe it is no ways dangerous, and before it begins to impoſtumate, may be cured by repellers, as other contuſions generally are, and if it impoſtumate and break

break on one ſide only, and the ſwelling on the other ſide ſinks and ſubſides, it is always a good ſign, and may be cured in the ſame manner as any other common impoſtume, and the ſinuoſities, if there be any, may be laid open with ſafety. But if matter gather on both ſides the withers with a paſſage from one to the other between the ſpines, the cure will be both tedious and difficult. If it begins deep among the ſinus's of the lowermoſt rack-bones of the Neck, which is often the caſe when it is the criſis of a malignant fever, the cure not only becomes tedious, but exceſſively troubleſome, and the Horſe is generally very much disfigured by cutting off the fleſh to get to the bottom of the ulcer. But when there are ſeveral ſinus's, and theſe communicate one with another, it is then a true fiſtula, and is not only difficult, but the cure may prove uncertain and perhaps impracticable, eſpecially if the Horſe be old or of a bad conſtitution.

The method of cure.

In curing the maladies on the withers, the firſt thing to be done is to examine into the cauſe, that the ill accidents attending ſuch things may as much as poſſible be prevented; if the ſwelling proceed from a bruiſe of the ſaddle, from a blow or any other ſuch cauſe, and is attended with ſymptoms that threaten a ſinuous ulcer or fiſtula, as we ſuppoſe here no fault in the Blood, and when as yet we can find no mattter gathered in it; therefore the firſt application ſhould be to bath it with hot Vinegar or Verjuice, and if that does not altogether ſucceed, an ounce of Oil of Vitriol may be mixed with a quart of the former, or half an ounce of white Vitriol, firſt diſſolved in a little water, and then mixed with the Vinegar or Verjuice. I have known this method have a wonderful good effect in reducing large ſwellings on the withers, by preventing impoſtumation, ſo that the cure has been effected in a ſhort time.

If the ſwelling be attended with heat and ſmarting, or if little hot watry pimples ariſe, as this is often the fore-runner of an ulcerous diſpoſition when theſe eruptions come on the withers, the beſt way to prevent that is, to bath it often with this mixture, *viz.*

Two ounces of crude Sal Armoniack, boiled in a quart of Lime Water or Spring Water, where that cannot be had, with a handful of Pearl Aſhes or Wood Aſhes, pouring off the decoction when ſettled, and mixing with it half a pint of Spirit of Wine. This will ſeldom fail to prevent a fiſtula where there are hot eruptions. Anointing the part afterwards with Linſeed Oil, or Oil of Elder, to ſoften and ſmooth the

ſkin, which when the ſwelling comes down is apt to ſhrivel and turn dry.

I remember a very large tumor of this kind on the withers, cured by the application of Aqua Fortis, once in two days. It firſt burnt off the hair, as if it had been ſinged with a hot iron. Afterwards it turned the whole ſwelling into a quaggy ichor, which caſt off ſloughs of glutinous matter, whereby the ſwelling daily abated, and the ſcar that remained with a baldneſs and loſs of hair, was ſmall and inconſiderable. I have generally found the ſame good effect from Oil of Vitriol, or the powder of white Vitriol in mixture with Spirits and Vinegar, as has been elſewhere directed; for tho' theſe ſwellings feel pretty hard to the touch, yet when they happen to be cut open before matter is gathered within them, they are nothing but meer ſpunge proceeding from the extravaſated juices of the ſkin and the tendinous fibres of the Muſcles, which are plentiful about the withers, and the maladies cauſed thereby cannot be eaſily conquered without ſuch things as will in ſome meaſure deſtroy the exuberant ſubſtance. In theſe caſes I likewiſe preſcribe bleeding and purging, and afterwards antimonial powders.

No repellents proper when the ſwelling is critical.

But when a Horſe has had a malignant fever, and the morbifick matter is caſt upon the withers, forming there a tumor or ſwelling, no repellents ought to be uſed, but rather ſuch things as will bring the matter ſpeedily to maturity; for which purpoſe I generally uſe the ointment of Marſh-Mallows mixed with a ſmall quantity of Oil of Turpentine, or a poultice made with Rye-Flower, Hogs-Lard, and Oil of Turpentine, *viz.* to a pint of Rye-Flower, ſix ounces of Hogs-Lard, four ounces of Ointment of Marſh-Mallows, and four ounces of Oil of Turpentine, mixed and made warm in a pipkin, keeping the Shoulders always covered with a woollen cloth under his body-cloth, till the tumor breaks or is fit to be opened.

The right way to open tumors on a Horſe's withers.

The beſt way in opening theſe tumors is never to make inciſion till the tumor either breaks of itſelf, or till the matter contained in it comes to maturity, which may be known by its being ſoft and yielding, eſpecially in the place where the matter is gathered, for if it be opened before it is ripe, the whole ſubſtance will be no other than a meer ſpunge, ſending forth nothing but a bloody ichor, which ſoon degenerates into a ſordid ulcer. I have mentioned this by way of precaution, having frequently ſeen errors of this kind committed by raſh and unſkilful perſons opening tumors on the withers, in this crude and unripe ſtate, and after inciſion, have

have thruſt their probe quite through the fungus among the tendinous origins of the Muſcles, whereby they have given birth to ſinuoſities, which perhaps would not have happened but by ſuch ill management, and by a continuance of the like conduct, have at laſt made their way into the bones of the Neck and Shoulders, and ſometimes under the Shoulder-Blade. The way to avoid this danger is to ſuffer the matter to ripen thoroughly, and then to open the tumor with a hot iron, made ſomewhat ſmall at the point, but rounded and not ſharp. When the matter has been emptied, a leaden probe may be uſed to direct a further opening, which is almoſt always neceſſary in ſuch caſes, and this opening ſhould be made downwards from the orifice, and a little oblique and ſlanting, as far as the hollowneſs reaches, which is beſt done with a ſmall ſemilunar or half round firing-iron made hot, and by introducing your finger you may know the condition of the impoſtume better than by any other trial, and by further opening in this manner as you ſee occaſion, may prevent its turning to a ſinuous ulcer or fiſtula. If an impoſtume gathers alſo on the oppoſite ſide, it may be opened in the ſame manner, and when there is a communication that upon opening one ſide the matter drains from the other, the beſt way in this caſe is alſo to make a perforation into the other ſide of the withers, taking care not to cut through the whitle line or ligament, which runs along the Neck to the withers, and at the ſame time avoiding to extirpate all the fleſh, which is frequently done when the ſwelling inclines forward towards the lowermoſt Vertebra of the Neck. For the loſs of ſo much fleſh not only cauſes an ugly deformity, but renders the cure very tedious, and the Horſe becomes unfit when cured for any gentleman's uſe.

The finger the ſureſt and beſt probe where it can be uſed.

Several neceſſary cautions.

By obſerving the abovementioned precautions, I have had Horſes cured in a very ſhort time, where great quantities of matter has been gathered on both ſides the withers, and where there was a paſſage under the white-line from one impoſtume to the other, *viz.* by opening both ſides from above downwards, ſometimes the length of three or four inches, where the ſwelling and collection of matter was large, and has been healed with little or no ſcar or blemiſh. The method of dreſſing was always according to the diſpoſition of the ſore. Some of theſe ulcers will even fill up and heal with a common digeſtive mixed with Precipitate, waſhing and bathing the ſore and wherever the ſwelling reaches, with rectified ſpirits; others are more tenaceous where the matter is oily, yellow, and viſcid, and in great quantity, ingendering proud fleſh; when this happened I always found the moſt ſucceſs from the following mixture, *viz.*

Eight ounces of a ſolution of blue Vitriol, that is, Roman Vitriol diſſolved in water; *viz.* half an ounce of blue Vitriol diſſolved in a pint of water; Oil of Turpentine and rectified Spirit of Wine, of each four ounces; the beſt white Wine Vinegar, ſix ounces; Oil of Vitriol and Ægyptiacum, of each two ounces.

Mix theſe together, and apply pledgits ſoaked in it ſcalding hot, bathing the ſwelling as often as it is dreſſed with Spirit of Wine and Vinegar, of each a pint; Oil of Sulphur, two ounces; dropping it in and mixing it by little at a time. The pledgits ſhould be laid as looſe as poſſible into the apertures, that the ulcers may incarn, and when it fills up with ſound fleſh, any common digeſtive mixed with a ſmall quantity of Precipitate, ſpread on pledgits of ſufficient breadth to cover the ſore over all its edges, will make a perfect ſound cure. If the ulcer turns ſinuous, the ſinuoſities muſt be laid open, and in other reſpects treated as ſuch; and when it happens to be a true fiſtula, all its ſources muſt be deſtroyed if poſſible, either by the potential or actual cautery, that is, with a cauſtick or a hot iron.

When the bones are foul.

Sometimes the bones are rendered foul by the original formation of the malady, eſpecially when it happens to be the criſis of a malignant fever; this generally creates a great deal of foul naſty work, when it falls on the lowermoſt Vertebra of the Neck, or on any of the ſinus's of the bones of the withers among the high Spines; and moſt of all when it turns fiſtulous, becauſe in all theſe caſes it is often neceſſary to extirpate a great deal of the fleſh before a cure can be effected. However, the propereſt cautions are in ſuch deep ulcers, firſt to make trial of ſome proper injection which ſometimes proves ſucceſsful, *viz.* where the bones are foul, a mixture of equal parts of Tincture of Myrrh and Tincture of Euphorbium, bathing all round with the abovementioned mixture of Spirit of Wine, Vinegar, &c. the Tinctures of Myrrh and Euphorbium clean the bones and help them to exfoliate; and this ſharp mixture by preventing an immoderate flux of humors falling upon the part, renders the cure both more eaſy and expeditious than by the application of digeſtives, even tho' they be mixed with Verdegreaſe or Precipitate; becauſe all fungus's being full of little papillæ, are apt to be gorged and ſoaked with the matter, which a digeſtive, by its viſcid and thick conſiſtence, cannot ſo well prevent as a liquid mixture made ſomewhat ſharp and cauſtick; for this ſinks into all the little quag-holes that are ſo uſual in theſe malignant ulcers, and at the ſame time levels and deſtroys the riſing and exuberant papillæ, whereby

Sharp tinctures often preferable to digeſtives in very ill diſpoſed ulcers.

the ulcer grows ſmooth, dry, and ſoon heals up and cicatrizes. For the ſame reaſon ſcalding directed in the manner as in the cure of the poll-evil, is both ſafe and expeditious, where the ulcer is large and deep in the fleſh, but in other caſes it may not be neceſſary. But the reader may conſult what has been ſaid concerning the cure of the poll-evil, *&c.*

CHAP. XIII.

Of Lameneſs proceeding from Strains and other Accidents.

Of Strains in the Shoulder.

A HORSE may be ſtrained and hurt various ways in the Shoulder, ſometimes in leaping, ſometimes in riding on very uneven ground, when the rider is careleſs and does not keep a good hand; and ſometimes by a falſe ſtep, even where the ground is very ſmooth, eſpecially when a Horſe has not been hardened and much uſed to exerciſe; and ſometimes Horſes get lame travelling in deep potchy grounds; this will not only affect the Shoulder, but their other joints, which ought to be carefully examined into. A freſh lameneſs in the Shoulder may be eaſily known, becauſe a Horſe does not put out that Shoulder as the other, but with pain, and ſets the ſound foot hardily to the ground to ſave the other. But when a lameneſs in the Shoulder proceeds from humors, it is not ſo eaſily diſtinguiſhed, becauſe often both Shoulders are more or leſs affected, and ſometimes alſo the Muſcles of the Breaſt, which cauſes a Horſe not only to drop, but to fumble in his going.

ALL ſudden lameneſſes in the Shoulder may be eaſily cured, unleſs there be a faulty Blood, which renders outward and inward applications both neceſſary; of this kind I have diſcourſed fully in other parts of this treatiſe, and therefore here we only ſuppoſe a ſimple ſtrain where the Blood is in good plight, tho' it may be obſerved, by the way, that where the Shoulders are fleſhy, or the Cheſt narrow and pin'd, the cure will be more tedious and uncertain.

MOST of the grooms and farriers, and many gentlemen, uſe mixtures of oils, of which I have ſeen numbers of receits with little or no variation,

tion, made up of Oil of Turpentine, Oil of Spike, Oil of Swallows, Oil of Earth-Worms, and a ſmall quantity of Oil of Vitriol, which indeed is a guard againſt the oilineſs of the other ingredients, and makes them not quite ſo relaxing as otherwiſe they would be. Theſe are applied not only to the Shoulder, but to other ſtrains, and ſome add to theſe a ſmall quantity of Oil of Petre and Oil of Origanum, which, however, I think is no advantage, but a detriment; theſe, however, frequently ſucceed when they draw out an eruption on the part like a mild bliſter; but when the Blood is no ways faulty, the ſpeedieſt and quickeſt way of curing ſtrains in the Shoulder, is with coolers and repellers, ſuch as old Verjuice or good Vinegar, in the following manner.

The cure. Take Verjuice or Vinegar, of either a pint; Bole Armoniac diſſolved in it, half an ounce.

LET the part be bathed with it two or three times a day, all over the lame Shoulder, from the Withers almoſt to the Knee, and half way upon the Breaſt; for all the Muſcles on thoſe parts have a conſent in the motion of the Shoulder; by this method I have cured many new Shoulder lameneſſes, without any other help beſides a few days reſt. But if the lameneſs continues without any ſwelling,

Take the beſt Vinegar, half a pint; Spirit of Vitriol and rectified Spirit of Wine, of each two ounces; Bole, half an ounce. Let this be applied as the former.

WHEN the Shoulder is very much ſwelled and relaxed, a different method is neceſſary, for then we may ſuppoſe a fluxion upon the Joint; in this caſe fomentations will be the moſt proper; for which purpoſe,

Take the Tops of Wormwood, two handfuls; Southern-Wood, half an handful; Camomile-Flowers, one handful; St. John's Wort, one handful; Bay Berries, bruiſed, three ounces; Crude Sal Armoniac, four ounces; Wood-Aſhes and Wood-Soot, of each an handful; boil theſe in two gallons of Chamber-lye.

The help fomentations give to rowels inobſtina e Shoulder lameneſſes. TAKE a quart of this fomentation, and add to it half a pint of Spirit of Wine, and foment the Horſe's Shoulder, with woollen cloths large enough to cover the Shoulder, wrung out dry while it is hot; a rowel in the point of

of the Shoulder, in this caſe, often does great ſervice, and ſeldom fails of a cure with the help of the fomentations, for the fomentation cauſes the rowel to run double the quantity that it would do otherwiſe, and carries off any grumes or ſettlement that may lodge in the interſtices of the Muſcles.

SOMETIMES the lameneſs is in the Joint, but very rarely, and in that caſe nothing comes up to fomentations or rowels, as the only means to draw out the anguiſh, and prevent an influx into it; for if the oily matter that is ſeparated in the glands of the Joint once condenſes and turns to a hardened glew, all the means in the world will not reſtore that Horſe to perfect ſoundneſs. A great many ignorant pretenders, when a Horſe has been newly lamed in the Shoulder, peg up the other Foot, or ſet on a patten-ſhoe, to bring the lame Shoulder upon a ſtretch, and ſome turn them immediately out to graſs; but all this is very prepoſterous, and the direct way to render him incurably lame; a patten-ſhoe being only neceſſary in old lameneſſes, where the Muſcles have been a long while contracted, and the like helps are often uſed to the human body, by the ableſt and moſt ſkilful ſurgeons; but in all lameneſſes of this kind, the moſt ſimple method of cold applications will be the moſt ſerviceable, and this I have found from daily experience.

A patten-ſhoe hurtful in all freſh lameneſſes.

Of Strains of the Knees and Paſterns.

THESE are more rare then ſtrains of the Shoulder, and ſeldom happen but from kicks or blows, of which I have treated already, where I have diſcourſed on tumors from outward accidents; but when a Horſe receives ſtrains on his Knees they are commonly violent, and often the Paſtern Joints are hurt at the ſame time, becauſe they generally happen from a Horſe's coming down a ſteep place, where his whole weight reſts upon his Knees and Paſterns; and I have ſeen the Knees and Paſterns very much ſwelled after ſuch accidents. The uſual way in theſe caſes is to lay on cold charges, which dry ſo ſoon that they often do very litle ſervice; but if the ſwelling continues, with heat and inflammation, the beſt method is to breathe them out with poultices made with Oatmeal or Rye-Flower, boiled up in grounds of Beer and red Wine Lees; for poultices are conveniently and eaſily applied to theſe parts; and if Wine Lees cannot be had, Chamber-lye may be uſed in their ſtead; after the ſwelling and inflammation is come down, let the part be bathed twice a day with the following mixture.

The cure.

Take

Take Vinegar, one pint; camphorated Spirits of Wine, four ounces; white Vitriol, diſſolved in a little water, two drams.

This will ſtrengthen the Horſe's Knees and Paſterns, if both have been ſtrained; but if only one Knee or one Paſtern be ſwelled, and that you only ſuſpect a weakneſs in the other joints, there will be no occaſion to uſe the poultice, except to the part that is ſwelled and inflamed.

I have known great weakneſs remain in the Paſterns after ſtrains, where the moiſture of the tendons and ligaments has been ſo ſlippery, that one could hear them jar and crack upon every motion of the Horſe; theſe Horſes are ſeldom fit for any buſineſs till they are perfectly cured. In country places they generally run at graſs, where, in time, they often recover, eſpecially if they be young; but in *London* the ſpeedieſt way is to bliſter and fire them, and then a ſhort run at graſs generally perfects the cure.

Of Strains of the Coffin.

Lameneſs of the coffin.

Thecauſe.

When the Coffin Joint is ſtrained, a Horſe often continues a long time lame without diſcovering where the lameneſs lies, becauſe at firſt a Horſe does not favour it much upon the bending of the Foot, only upon planting his Foot upon the ground; but in time there will grow ſuch a ſtiffneſs in that joint, that he will only touch the ground with his Toe, and it will be impoſſible to play the joint with one's hand; the only method alſo to remove this ſtiffneſs, is bliſtering and firing, which often ſucceeds, unleſs the ſtiffneſs and contraction has been of a long ſtanding.

Of Strains in the Back-Sinew.

A Back-Sinew ſtrain is one of the moſt common and uſual accidents that happens to a Horſe; it generally proceeds from hard riding upon dry grounds, and from other cauſes where the roads are ſtony and bad, and ſometimes where they are potchy.

It is eaſily perceived by the ſwelling of the ſinew, which ſometimes reaches from the back-ſide of the Knee down to the Heel; and when it

is

is ſo, a Horſe does not care to ſet his foot even upon the ground, but for the moſt part, in his ſtanding, ſets it before the other.

The uſual way of curing this malady, is with cold charges, which often ſucceed very well, if frequently renewed; ſome uſe currier's ſhavings bound round the ſinew with a bandage, and this alſo anſwers very well in ſome caſes; but there is nothing either ſo ready or efficacious as Vinegar or Verjuice, with Bole, being often in a day ſoaked well into the ſinew, warm; and if any thing of the lameneſs or ſwelling remains after this, and after the heat and inflammation is gone out, a mild bliſter that has nothing corroſive in it beſide the cauſtic ſalts of the flies, will generally ſpeaking effectuate a cure, and bring the ſinew fine. The cure.

When hot and relaxing oils mixed together are uſed to the back-ſinew, which many practitioners are fond of, becauſe they ſometimes ſucceed in Horſes that have their ſinews ſtrong and rigid, yet they are apt to engender windgalls of a bad kind, or make the Veins on each ſide the ſinew to be full and gorged; and I have known Horſes lame for two or three years together with theſe varixes in the Veins; bliſtering in this caſe has very little or no effect, but firing through the Vein till the Blood comes, for nothing leſs will remove that weakneſs. After the firing the whole Leg, from the Knee down to the Heel, and all the hollow places on both ſides to be charged with a good ſtrengthening plaiſter, made of Adherniam, ſtirring into it when it is melted down, *viz.* to four ounces of the Adherniam add Dragon's Blood, Maſtick and Bole of each half an ounce; and this will perfect the cure, eſpecially if the Horſe be turned to graſs for a month or five weeks, or in the winter, if he run a little while in a ſmooth yard where he has good dry litter.

Of Lameneſs in the Stiffle.

A Stiffle lameneſs is cauſed by thoſe accidents that produce all other lameneſſes in the Joints. When a Horſe is lame of the ſtiffle he generally treads upon his Toe, and cannot ſet that Heel to the ground; ſome ſtrains in the ſtiffle are violent and ſwell pretty much, but I hardly ever knew any of them incurable, unleſs bad methods had been uſed in the beginning. They commonly come well with cooling applications, ſuch as have been preſcribed for the Shoulder; but if the ſwelling be very large and puffy, which ſometimes happens, recourſe muſt be had to fomentations to breathe out any collection of humors that may be engendered by The cauſe. The ſigns.

the violent fluxion upon the part; ſometimes impoſthumatious follow in ſuch caſes, and when theſe break and run, there is commonly an end of all danger.

I was once concerned with a Horſe that had a ſwelling roſe in his ſtiffle, with ſo violent a ſtrain, that he was not able to touch the ground with his Foot, for above ſix weeks. This Horſe was cured with the conſtant uſe of fomentations, thoſe made with crude Sal Armoniac and Pot Aſhes; it never impoſthumated in any part, but came down gradually; the anguiſh had been ſo great, that for ſix months after he was compleatly cured, if any perſon went on that ſide of him he held up his Leg, and would not put it to the ground till he ſaw no body in ſight.

Of Lameneſs in the Whirlebone and Hip.

THOUGH I have had abundance of Horſes that have been cured of lameneſſes in the Whirlbone and Hip, when they have been diſcovered in time, yet the cure of theſe lameneſſes is generally the moſt uncertain of all others, becauſe at firſt a Horſe ſhews very little of lameneſs, and ſcarce ever in his walk, but when he comes to trot; and as a Horſe that is hurt in the ſtiffle creeps with his Toe upon the ground, ſo a Horſe that is hurt in the Whirlbone, when he trots drops backwards upon his Heel, and moſt people are apt to make ſlight of thoſe ſtrains when they are new; but if any one conſiders the largeneſs of the ſocket in which the round head of the Thigh-bone is placed, the ſtrength of the ligaments that cover that joint, and the vaſt quantity of the oily mucous that ſerves to lubricate that joint which is ſhut up by theſe ligaments, and by the ſtrong tendons of the Muſcles, they will not be ſurpriſed at the difficulty of making a cure there, becauſe the ſeat of the lameneſs lies in a great meaſure beyond the reach of outward applications; this generally comes by ſome very violent ſtrain, but when the Muſcles of the Hip are only affected, that kind of lameneſs is often cured without much difficulty.

A lameneſs of the whirlbone hard to be cured.

WHETHER the lameneſs be on the Whirlbone or in the Muſcles of the Hip, the firſt intention as to the cure is the ſame, and that is to begin with coolers and repellers, ſuch as have been already recommended in all other freſh lameneſſes, and they ſhould be uſed very liberally, at leaſt four or five times a day to thoſe parts, and when the ſtrain is quite new there will be hopes of ſucceſs; and I have known ſeveral Horſes cured ſo, without any other application; but when the ailment has once lodged itſelf

ſelf in the joint, ſeveral methods muſt be uſed, ſuch as bliſtering and firing, which ſometimes ſucceed ſo far, that a Horſe will recover with a very ſmall limp, and will be able to go through a great deal of buſineſs; ſome put in rowels on the inſide of the Thigh, and on the outſide, a little below the whirlbone; but I never remember any great ſucceſs from ſuch things, but have ſeen a great deal of miſchief done by placing their outſide rowels upon the ligament of the joint, which in ſome Horſes I have been ſent to would have ended in mortification, which was prevented by proper fomentations and taking out the rowel.

Of Strains in the Hock.

THE Hock is a part very liable to hurts and ſtrains, but we meet with many of them that are eaſily cured when taken in time, though they have been very much ſwelled only with ſoking them well with coolers and repellers; but when the ligaments are hurt it cauſes great weakneſs, and ſometimes the cure becomes difficult enough; the ſureſt way in this caſe where there is great pain and weakneſs, is to ply the part well with fomentations. I ſeldom have known this method fail of ſucceſs, unleſs ſome very improper means have been uſed in the beginning, which ſometimes leaves ſtiffneſs and calloſities. If the calloſity or hardneſs grows only on the outſide, it may be effectually removed by repeated bliſtering, and without any hazard; but if the calloſity is on the inſide, it may be got out of the reach of outward applications; the beſt remedy in this caſe is firing the part very gently with ſmall razes or lines, and pretty cloſe together, after which apply the following charge.

Strains of the Hock eaſily cured, unleſs when the ligaments are hurt.

Take the mercurial plaiſter of the ſhops, four ounces; the *Emplaſt de Cicuta cum Ammoniaco*, two ounces; let theſe be melted down together and applied chargeways over the Hock, renewing it once or twice as it crumbles off.

SOMETIMES the diſorders of the Hocks produce the *ſallenders*, which is a hard ſcabby ſore that comes in the bending of the Hock, the ſame with that in the bending of the Knee, called the *mallender*. Gummy fleſhy legg'd Horſes are the moſt ſubject to theſe maladies, and the beſt method of curing them is, clip away the hair and clear the ſcabs, then apply the following linaments, *viz.*

Take Æthiop's Mineral, half an ounce; white Vitriol, one dram; ſoft green ſoap, ſix ounces; let them be incorporated well together in a mortar, till they come to a ſalve.

THERE are abundance of remedies preſcribed for this diſtemper, but this I have always found to be the beſt.

CHAP. XIV.

Of the Diſeaſes of the Feet.

The natural defects of the Feet.

THE Feet are ſubject to various diſeaſes and accidents, of which I have already been ſomewhat particular in the firſt part of this treatiſe, but here I ſhall take them in their order, and ſo proceed to their cure. Some defects in the Feet are natural, which renders them very difficult to cure; among the natural defects of the Feet are narrow Heels, Hoof-bound or binding of the Hoofs, when the Hoofs are exceſſively hard, or when they are too ſoft and thin. A fleſhineſs of the Foot, eſpecially about the Frog and under the Sole are alſo great defects in the Feet, a flat foot is likewiſe defective, as alſo when the quarters grow too high. Theſe are what we obſerve to be natural defects of the Feet, and the cure of moſt of theſe defects proves only palliative.

Of Narrow Heels.

The beſt way to mend theſe defects.

NARROW Heels are for the moſt part a natural defect, but are often rendered incurable by bad ſhoeing; ſome farriers hollow the quarters ſo deep and ſo thin, that one may pinch them in with ones fingers, and think by that means to widen them out by a ſtrong broad webbed ſhoe; but this turns them narrow above and wires their heels, and dries up or rots the frog. The beſt way in all ſuch caſes is not to hollow the Foot in ſhoeing, and pare nothing out but what is rotten or foul; if the Foot be hard or dry, or inclined to be rotten, bathe it often with Chamber-lye, or boil two pounds of Linſeed, bruiſed, in two quarts of Chamber-lye to the conſiſtence of a poultice, then add to it ſix ounces of green ſoft ſoap, and anoint the Foot with it every day, rubbing a little of it upon the Sole, or,

Take

Take two ounces of Bees-Wax; ſix ounces of freſh Butter; one ounce of Tar; and as much Linſeed Oil as will make it into the conſiſtence of a ſmooth ointment.

This may be carried from place to place, and uſed daily as the other.

Binding of the Hoof.

We ſay a Horſe is hoof-bound, when the Hoof is ſo tight round the Inſtep that it turns the Foot ſomewhat into the ſhape of a bell; this is ſometimes cauſed by ſhoeing, as above deſcribed, to widen the Heel, and ſometimes by cutting the Toes down too much, which give that ſhape to the Foot, and cauſes the Horſe to go lame; this is eaſily diſcovered both by the Eye and by the Horſe ſetting his Foot down ſo tenderly. I have known Horſes ſometimes have ſo much of the Toes cut down, that they could not go till all the nails were pulled out before. Hoof-bound Horſes have commonly pretty hard Feet, and the only way to remedy this defect is to draw the Foot down from the Crownet almoſt to the Toe with a drawing knife, making ſeven or eight lines or razes through the Hoof, almoſt to the quick; afterwards keep it charged with pitch or roſin, till the lines are worn out in ſhoeing, which will require ſeveral months, and therefore moſt people turn ſuch Horſes to graſs till the Feet grow down, though I have known ſome Horſes get clear of the pain after drawing in this manner, and have been able to travel and do good ſervice in a few weeks. The cauſe. The cure.

The ſame method is alſo to be uſed when one Foot only happens to be periſhed by corns or bruiſes that have been long under cure.

Of Sand Cracks.

A Sand Crack is a little ſmall rift or cleft on the outſide of the Hoof; if it runs in a ſtrait line downwards and penetrates through the horny part of the Hoof, it proves troubleſome enough to cure; but if it paſſes through the ligament that unites the Hoof with the Coronet, it is then apt to breed a quitter or a falſe quarter, which are very dangerous. When the crack only penetrates through the Hoof, without touching that liga- A Sand Crack deſcribed. The progneſticks and cure.

ment,

ment, unleſs the Hoof be hollow from the membranes underneath, it may be eaſily cured, only by raſping the edges ſmooth and applying thick pledgits of yellow Baſilicon, and binding them down with a piece of ſoft liſt, and ſometimes a piece of very large packthread waxed, and bound round like a hoop, will anſwer the end very well; but if you perceive a hollowneſs under the Hoof, and that the cleft has a tendency to penetrate through the griſtle or ligament, the beſt way in that caſe is to fire out of hand, with irons that are not made too hot, firſt raſping the part very thin and wide from both ſides of the cleft. After firing, the Horſe muſt not be ſuffered to carry any weight for a conſiderable time, but be turned out to graſs, or into ſome good farm-yard, if it be in winter, till his Foot is grown.

Of a Quitter, or Quittor.

A Quitter deſcribed.

A Quitter is an ulcer formed between the hair and hoof, moſt uſually on the inſide quarter of a Horſe's Foot; it often proceeds from treads or bruiſes, and if the conſtitution be bad, or the Hoof happens to be hollow near that part, it then proves dangerous; but if it only is ſuperficial, and does not get under the Hoof, it may be cured with cleanſing dreſſings, bathing the coronet round every day with Spirit of Wine, and dreſſing the ſore with yellow Baſilicon mixed with Precipitate, *viz.* Two drams of red Precipitate, finely powdered, to four ounces of Baſilicon; this will cure any ſuperficial ulcer in the Coronet; but if the matter forms itſelf a lodgment under the Hoof, there is no way then to come at the ulcer but by taking off part of the Hoof, and if this be done well and artfully, the cure may be effected without danger. I have known the matter after one ulcer has been cured, form freſh lodgments that have required more of the Hoof to be taken off afterwards, and yet have in the end ſucceeded very well, only ſuch accidents as theſe require ſome time. But when the matter happens to be lodged near the quarter, it obliges the farrier ſometimes to take off the quarter of the Hoof, then the cure is for the moſt part only palliative; for when the quarter grows up it leaves a pretty large ſeam, which weakens the Foot, and this is what is uſually called a falſe quarter; and a Horſe that has this defect ſeldom goes quite ſound; they are generally Horſes of the heavy breed which are moſt ſubject to ſuch things, and will afterward do a good deal of drudgery in a cart or waggon.

The cure.

Of

Of the Greaſe.

I Need ſay very little or nothing concerning the greaſe, having diſcourſed of that already in the method of dieting and other parts of this treatiſe; it is generally the effects of a faulty Blood, and happens moſtly to Horſes of groſs conſtitutions; ſometimes it is owing to careleſsneſs in the perſons that look after them, for want of keeping their limbs clean and dry; but for the moſt part Horſes that run late in the winter at graſs are the moſt ſubject to it; their Blood by that means growing poor and dropſical, expoſes them firſt to ſwell in their limbs, and then to eruptions, which run a fœtid ſtinking matter, not unlike melted glue, and when it turns ſharp and corroſive it becomes troubleſome enough; ſometimes the greaſe only breaks out behind, ſometimes before, and when the conſtitution is very bad it will break out in all four limbs at once.

The greaſe.

What Horſes moſt ſubject to it.

When the Heels are very much ſwelled and full of hard ſcabs, it is neceſſary to begin the cure with poultices, which may either be made with Turnips or with Rye-flower, Turpentine and Hog's Lard, mixed with Spirit of Wine or red Wine-Lees, and when the Horſe comes to move his limbs with leſs ſtiffneſs, it will be proper to purge, which in ſome caſes muſt be repeated five or ſix times before you can have the deſired effect, of which ſeveral forms may be ſeen in the preceding part of this treatiſe; where there are pretty large ſwellings in the limbs, diureticks that work powerfully by urine, often ſucceed better then purges.

The cure of the greaſe.

Take four ounces of yellow Roſin, one ounce of Sal Prunellæ, grind them together in a mortar, oiling the end of the peſtle to keep them from running into lumps; unrectified Oil of Amber, one dram; let this be mixed in a quart of clean forge water, and given to the Horſe in the morning faſting.

He is to be kept faſting two hours before and two hours afterwards, then giving him cold water and riding him moderately, the ſame as in a purge.

Some Horſes that have weak ſtomachs, will not bear thoſe drinks ſo well as others, and therefore they may be the ſeldomer adminiſtered; to ſuch one in two or three days will anſwer the end, though not quite ſo ſoon as to thoſe that can take three or four of them every morning running.

Of a Running Thruſh.

If there be any remains of the humour, the Legs may be bathed with Spirit of Wine and Vinegar, equal parts, and if that is not ſharp enough, add a little Ægyptiacum to it, or if the Heels remain ſomewhat ſcabby and dry, uſe the following ointment.

Take yellow Baſilicon and Honey, of each two ounces; Verdigreaſe in fine powder, three drams; let this be applied once a day till the cure is effected.

If any weeping remains near the Heels, apply the following poultice, which will go nigh to dry it up.

Take Honey, four ounces; white or red Lead, in powder, two ounces; Verdigreaſe, in fine powder, one ounce; mix them together, and apply as much as is ſufficient, upon tow, to the part, and renew it once in three days.

The crown ſcab how to be managed.

The crown ſcab is an humour that breaks out round the Coronet, is very ſharp and itching, and attended with ſcurfineſs; moſt uſe only ſharp water for the cure of it, but the ſafeſt way is to mix ſome Marſh-Mallows and yellow Baſilicon, equal parts, ſpread upon tow and laid all round the Coronet, and at the ſame time let the Horſe have a doſe or two of phyſick, or a couple of the diuretick drinks, as above deſcribed in the greaſe.

Of a running Thruſh, or Fruſh.

A running thruſh deſcribed.

A Thruſh is an impoſthume that gathers in the frog, eſpecially in Horſes that have fleſhy Heels, and have deep clefts in their frogs. Horſes that have their frogs clean and dry and of a moderate ſize, are ſeldom ſubject to ſuch accidents; ſometimes they are attended with the greaſe, in Horſes that are liable to ſwelled Heels, and when care has not been taken to cure them in time, when proper methods are uſed to ſuch Horſes they are ſeldom dangerous, but are ſometimes profitable to Horſes of fleſhy and foul conſtitutions, becauſe they drain off a great many bad humours; and when ignorant people are too ſollicitous to dry them up too quick, I have known them ſometimes affect a Horſe's Eye, and ſometimes bring out a ſharp humour on the ſurface of the ſkin reſembling a ſurfeit.

The ſafeſt way in managing thruſhes, when the impoſthume appears, is to pare out the hard part of the frog, or whatever appears rotten, and waſh the bottom of the Foot two or three times a day with old Chamber-lye; there is ſeldom or ever any thing more neceſſary for the cure of a thruſh, for this is ſeldom ſo perfect but that they will relapſe at ſome certain times, in one Foot or another, where Horſes are inclined to them; but then they may be cured by following the ſame method.

But when a Horſe happens to have been neglected, or has a very ſtrong flux of humour into the part, it is apt to degenerate into a canker; the beſt way to prevent this, is to begin with medicines that are not ſo ſharp, of which I would adviſe the following:

Take Spirit of Wine and Vinegar, of each two ounces; Tincture of Myrrh and Aloes, one ounce; Ægyptiacum, half an ounce; mix them together, and bath the Thruſh wherever there appears a more than ordinary moiſture; and lay a little tow dipt in the Tincture over the ulcer, after the manner of a ſtoping.

At the ſame time the Horſe ſhould be purged with one or another of the purges I have recommended for ſwelled Legs, and it would not be amiſs to give him one or two of the diuretick drinks inſerted for the greaſe; I have know this method not only ſcoure Horſes from the canker, but from the other ſymptoms that ariſe from drying up theſe ulcers too ſoon.

Of a Canker in the Foot.

A Canker for the moſt part proceeds from thruſhes, when they prove rotten and putrid; ſometimes a greeſy humour, when it has been of a long ſtanding, and is got into the ſinuoſities of the Coffin joint, will run down to the Frog and under the Sole, and turn to a canker; ſometimes bruiſes, corns, and ſometimes taking up of a kennel or channel nail, when theſe are ill managed they will produce the ſame effect, but the moſt uſual cauſe is from a rank thruſh.

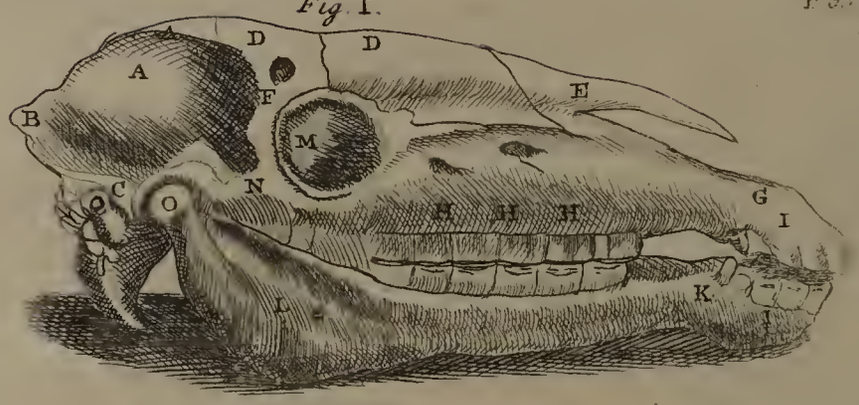
The canker is ſo luxuriant in ſome conſtitutions, that in one night's time it will get into the muſcles of the bottom of the Foot, turn them all into a quag, and at the ſame time rot the ſole. A luxuriant canker very much reſembles a cancer, both in ſmell and aſpect, for if it be neglected dreſſing for a few days, it will grow ſeveral inches high, and when the

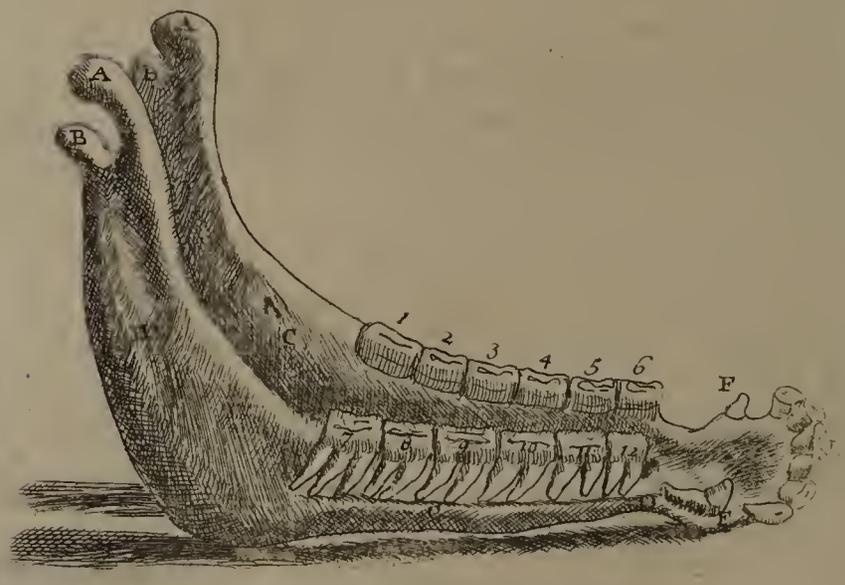
ſlough is taken off, it will be underneath all full of papillæ, reſembling a collyflower, except in the colour, which is of a very pale red and variegated. The method that farriers uſe for the cure of a canker, is for the moſt part with hot oils, ſuch as double Aqua Fortis, Oil of Vitriol, and Butter of Antimony, which indeed are very proper; for ſome cankers are of ſo quick a growth, that nothing leſs than ſuch cauſtick medicines will keep them under; ſome uſe Sublimate, and ſtrew the canker over after the oils have been applied; this ſometimes does a great deal of miſchief; thoſe do better who only uſe red Precipitate, but the main thing ſome farriers are wanting in is, the manner of uſing them; the plain cauſtick oils are the beſt alone, providing they are rightly applied; for they ſhould be more frequently dreſſed than what is common, not to let them lie on three or four days, as they often do; for the great humidity and moiſture of the canker weakens the force of the oils, ſo that they only form a ſoft ſpungy eſchar, and when that comes to be ſcraped off, you will meet with nothing but a freſh ſpungy place, which makes the work to begin a-new again; but thoſe who have followed my advice, and have dreſſed them every day with oils, have ſoon got ground upon the canker, even ſometimes when it has been got to the Coffin bone; for the muſcles in the bottom of a Horſe's Foot are utterly waſted in the cure of this diſtemper, yet they will grow up again, and be no detriment at all to the Horſe, a new Sole will cover them firmer and better than what they had at firſt. When the canker does not riſe upon the dreſſings, once in two days will be ſufficient, and ſometimes a little Precipitate and burnt Allum, in fine powder, will be very neceſſary to ſtrew over the new growth of fleſh, until the Sole begins to grow. There is one other great error committed in curing the canker, and that is, not having ſufficient regard to the Hoof; the Hoof ſhould not only be cut off wherever it preſſes upon the tender parts, but ſhould be kept very ſoft with Linſeed Oil, and as often as it is dreſſed, bath the Hoof all round the Coronet with Chamber-lye. When the Horſe is cured and come to his appetite, he ought to have two or three purges, and two or three more ought to be repeated after a month's interval. As they are commonly draught Horſes that are ſubject to theſe maladies, a little working will do them good, as ſoon as the Foot is grown tolerably firm and ſtrong.

F I N I S.

TAB. I.

Fig. I.





A N

EXPLANATION

OF THE

PLATES.

Tab. I. Repreſents the Bones of the Head.

FIG. 1. Shews one ſide of the whole Skull of a Horſe, including both the upper and under Jaw.

AA. The orbicular part of the *Cranium* or Skull, which includes the Brain and *Cerebellum.*

B. A proceſs of the occipital bone of the Skull, peculiar to Horſes, and ſome other quadrupeds; in a Horſe called the Noll bone.

C. Part of the temporal bone, that includes the *Meatus Auditorius*, and bones of the Ear.

DD. Part of the frontal or forehead bone, with the *Os Spongioſum.*

E. The ſharp bone that forms the tip of the Noſe.

FFF. Holes through which ſeveral blood-veſſels and nerves paſs the Skull to the Face.

G. the lower part of the Upper-jaw bone, where there is a proceſs that forms the arched declivity from the Noſe to the upper Lip.

HHH. That part of the upper Jaw bone where the ſix upper Teeth, called the Grinders are inſerted.

I. The lower part of the upper Jaw bone, where the Inciſors or Nippers are inſerted.

KK. The upper and lower Tuſhes.

L. The ſide of the lower Jaw bone as united to the upper.

M. The orbit or large hole where the Eye is placed.

N. A proceſs of the temporal bone that forms part of the orbit of the Eye.

O. The round head of the lower Jaw, where it is articulated with the upper.

FIG. 2. Repreſents the lower Jaw-bone, ſeparated from the upper Jaw.

AA. The two ſuperior proceſſes of the lower Jaw that join it to the upper.

BB. The two inferior proceſſes.

C. A hole through which a Nerve of the fourth pair paſſes to the Teeth, *&c.*

D. A hole through which another branch of the fourth pair paſſes to the Lips and Muſcles of the lower Jaw, *&c.*

E. The under fore Teeth or Nippers.

FF. The Tuſhes.

G. A ſmall channel for the paſſage of a Vein, Artery and Nerve, by which the lower or under Teeth are ſupplied and nouriſhed.

H. Another channel along the upper or back part of the ſame bone.

1, 2, 3, 4, 5, 6. On the left ſide ſhews the upper part of the Grinders.

7, 8, 9, 10, 11, 12. Shews the Grinders on the right ſide, with their Roots or Thongs, when part of the Shell or Socket is removed to ſhew their Roots.

TABLE II.

FIG. 1. Shews the upper part of the Skull.

A. The occipital bone or Sinciput.

BBB. The ſeam by which the bones of the Face are joined together, which is plainly viſible in Colts and many other young animals.

CC. Two other Sutures, which are alſo plain in Colts.

DD. Two *Foramina* or holes through which ſome ſmall Blood-veſſels and Nerves have a paſſage to the upper Jaw and upper Lip.

EE. The griſtles of the Noſe, which in young Horſes are divided by the ſeam marked BBB, but afterwards turn bony and are united.

FF. The orbits or holes of the Eyes.

GG. The lower part of the upper Jaw, where the upper fore Teeth or Nippers are placed.

FIG. 2. Repreſents the under ſide of the Skull.

AA. The under ſide of the Occipital or Noll bone, with the large foramen or hole through which the ſpinal marrow paſſes.

BB. Several holes through which ſome branches of the external jugulars paſs into the Brain.

CC. Two *Foramina* or holes through which two branches of the ſeventh pair of nerves of the *Cerebellum* paſs to the upper Jaw, and are diſperſed on the muſcles of the Tongue, the Cheeks, and *Os Hyoides.*

DD.

P. 34 Fig. II.

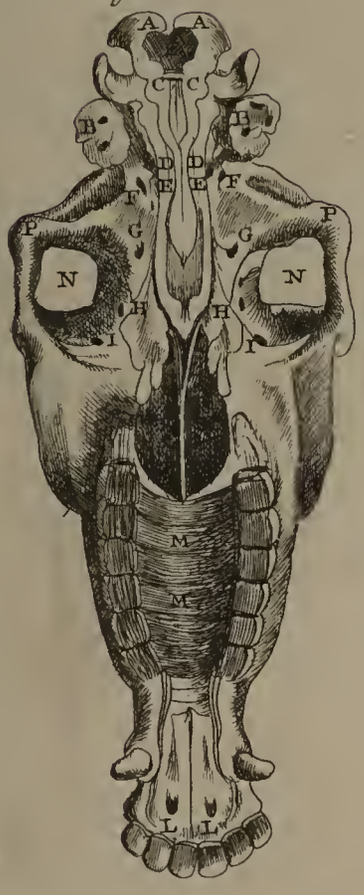
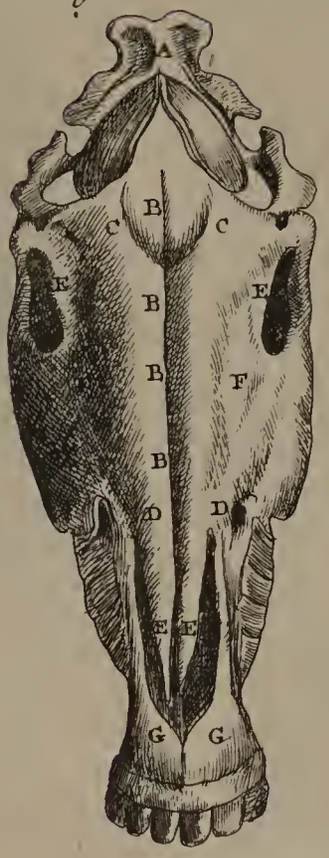
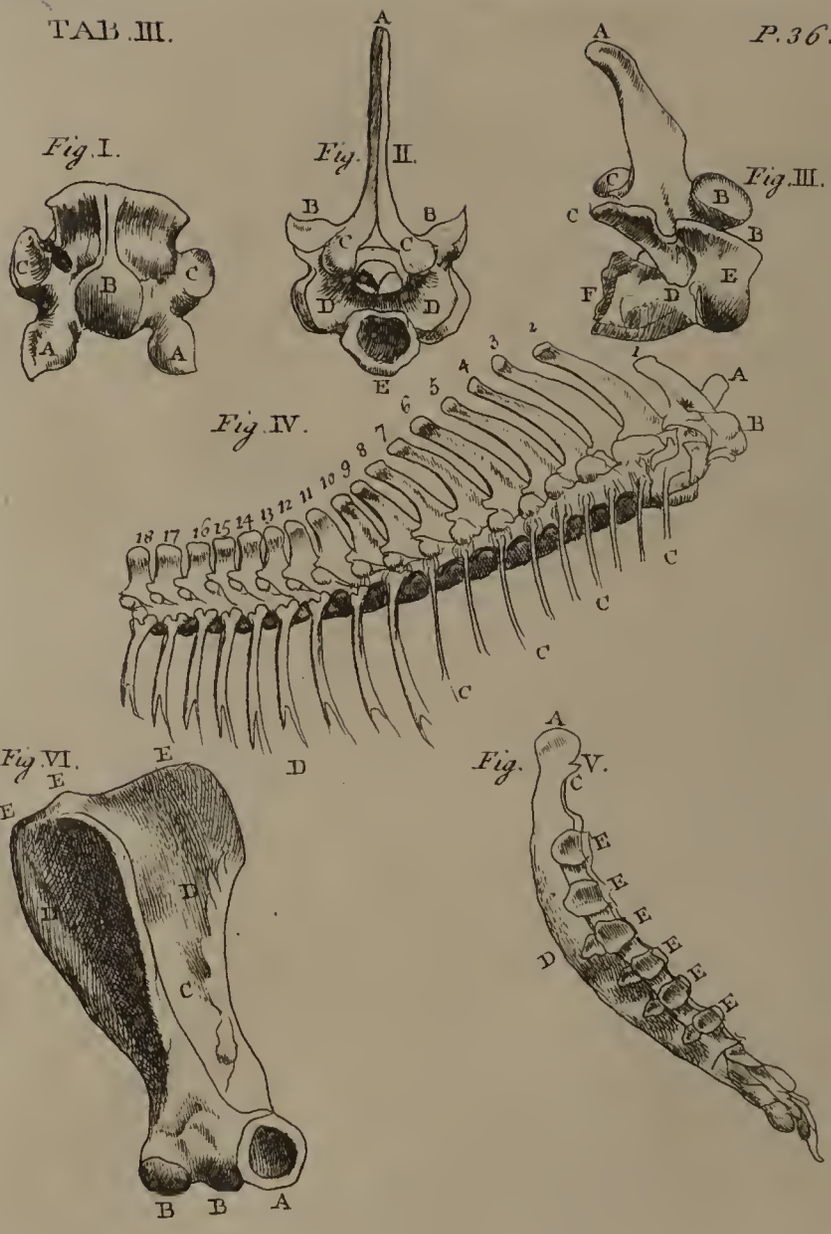


Fig. I. TAB. II.



TAB. III. P. 36.



DD. EE. The *Foramina* through which ſeveral nerves paſs, and are diſperſed on the Palate, roof of the Mouth, and Tongue.

FF. Holes through which two ſmall branches of the external jugular vein and artery paſs to and from the *Cerebellum*.

GG. Two *Foramina* or holes, *viz.* one on each ſide, through which branches of the external jugular veins and arteries are diſperſed upon the Cheeks and Temples, with ſome ſmall twigs to the lower Jaw, and the roots of the Teeth. See TAB. I. FIG. 2. and letter G.

HH. Holes through which ſmall twigs of nerves are detached to the Eye.

II. Holes through which other branches of nerves paſs, that are diſperſed on the organs of hearing.

K. The griſly part of the baſis of the Skull, where ſeveral pituitary glands are placed that diſcharge the moiſture from the Noſe.

LL. Two *Foramina* or holes through which a vein and artery paſs to the Palate, and other parts of the upper Jaw.

MM. The *Os Palati*, or bone of the Palate.

NN. The large hole where ſome of the muſcles of the Eye are placed, that with the fat fill up that cavity.

TAB. III. Repreſents the figure of the firſt *Vertebra* of the *Thorax* in three different views, with a view of the bones of the Trunk; alſo the Breaſt bone or *Sternon*, with the *Scapula* or Shoulder-blade.

FIG. 1. Shews the under ſide of the firſt *Vertebra* of the *Thorax* or Breaſt.

AA. The two proceſſes that join the laſt and lowermoſt *Vertebra* of the neck.

B. The large proceſs that is received into the middle cavity of the ſaid *Vertebra*.

CC. The two lateral proceſſes that are joined to the ſaid *Vertebra*.

FIG. 2. Repreſents the ſame *Vertebra*, with its ſpine turned upwards.

A. Its ſpine.

BB. The upper ſide of the two anterior proceſſes that join the lower *Vertebra* of the Neck.

CC. The upper ſide of the two poſterior proceſſes that are articulated with the lowermoſt proceſs of the ſecond *Vertebra* of the Neck.
Vertebra of the Neck.

DD. Two proceſſes that enter into two cavities of the ſecond *Vertebra* of the *Thorax*.

E. The cavity through which theſin al marrow paſſes

FIG. 4.

FIG. 3. Repreſents the *Vertebræ* of the *Thorax* or Breaſt, with thoſe of the Back and Loins in their proper ſituation.

A. A Proceſs of the firſt *Vertebra* of the *Thorax*, which enters the upper cavity of the lowermoſt *Vertebra* of the Neck.

B. The lowermoſt proceſs of the firſt *Vertebra* of the *Thorax*, which enters the lower cavity of the under or lowermoſt *Vertebra* of the Neck.

CCCC. The cavities that receive the round heads of the Ribs of the *Thorax*, which join with the *Sternon* or Breaſt-bone.

DE. Shews the upper part of the ribs that riſe from the Spines of the Back and Loins in their proper articulations, including the ſhort Ribs.

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18. Repreſents the 18 Spines of the *Vertebra* of the *Thorax*, Back and Loins.

Horſes are often ſubject to fiſtulous ulcers among theſe Spines, ſo that the ſtructure of theſe parts ought to be well known by thoſe who practiſe farriery.

FIG. 4. Repreſents the firſt or uppermoſt *Vertebra* of the *Thorax* ſideways, as it appears when joined with the other *Vertebræ* in FIG. 4.

A. The Spine which in this bone is ſhorter, more crooked, and more ſpungy, than the other *Vertebræ*.

BB. The upper part of the two anterior proceſſes that are articulated with the lowermoſt *Vertebra* of the Neck.

CC. The lower part of the two exterior proceſſes that are articulated with the anterior proceſs of the ſecond joint or *Vertebra* of the Neck.

D. The Seam on one ſide, to which the foremoſt Rib is joined, which is the ſame on the other ſide.

E. The round head or proceſs that is articulated, and enters into the cavity of the *Thorax*, and of the lowermoſt *Vertebra* of the Neck.

F. The cavity which receives a proceſs of the ſecond *Vertebra* of the Neck.

FIG. 5. Shews the *Sternon* or Breaſt-bone.

A. The round head of the Breaſt-bone, which ſerves for the origin and inſertion of ſeveral Muſcles.

B. Its lower extremity called, *Cartilago Enſiformis*, or ſword-likecartilage.

C. The cavity into which the Collar-bone on the one ſide is inſerted.

D. The Spine of the *Sternon*.

EEEEEE. The Hollows or Sockets which receive the cartilaginous ends of the anterior Ribs.

FIG. 6. Repreſents the upper ſide of the *Scapula* or Shoulder-blade bone.

A. A broad flat cavity that receives the round Head of the Shoulder-bone.

BB. Pro-

TAB. IV.

Fig. I. *P.* 38.

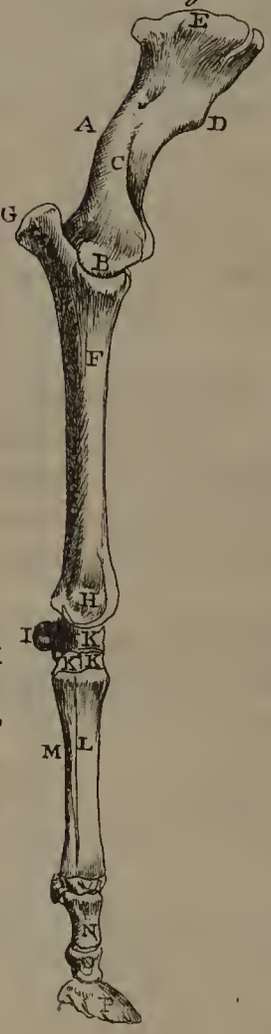


Fig. II.

Fig. III.

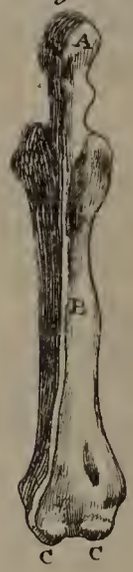


Fig. IV.

Fig. VI.

Fig. V.

Fig. VII.

BB. Proceſſes on the baſis of the *Scapula*, to which the broad ligamentous ſubſtance that ſecures the Joint are attached, with the Tendons of ſeveral ſtrong Muſcles that move the Shoulder and the fore Limb.

C. The Spine or Ridge of the Shoulder-blade bone.

DD. The upper and lower *Coſta*, whence ſeveral very ſtrong Muſcles of the Shoulder and fore Leg have their origins and inſertions.

EEE. Three proceſſes at the extremities of the *Lamina* or plates for the origins and inſertions of the Muſcles.

Tab. IV. Repreſents the bones of the fore Leg.

Fig. 1. Shews the bones of the fore Leg as they are articulated and joined together.

A. The Back or Arch of the *Os Humeri* or Shoulder-bone.

B. The round Head of the lower end of the Shoulder-bone, that is received into the upper cavity of the Leg-bone.

C. The Contortion or Spine of the Shoulder-bone, wherein ſeveral Muſcles have their origins and inſertions.

D. A large proceſs under the upper head, on the fore part of the ſame bone, whereon ſeveral Muſcles have their origins and inſertions.

E. The round head that is covered with a ſmooth cartilage, and is articulated with the *Scapula* or Shoulder-blade.

F. The Leg bone.

G. The large proceſs that forms the Elbow of a Horſe.

H. The lower end that joins the ſmall bones of the Knee.

KKK, *&c.* The ſmall bones of the Knee.

LM. The two long bones of the Shank that reſemble the *Radius* and *Ulna* of a man's Arm.

N. The great Paſtern.

O. The little Paſtern.

P. The Coffin-bone.

Fig. 2. Repreſents the ſmall bones of the Knee, with part of the Shank.

A. The Shank-bone cut through the middle.

B. The bore or hollow of the bone in which the Marrow is contained.

1, 2, 3, 4, 5, 6, 7. The ſeven bones of the Knee.

Fig. 3. Shews the back part of the Shoulder-bone, with its chief proceſſes.

A. The large proceſs that forms the Elbow.

B. The Spine.

CC. The

CC. The two lower proceſſes of the Shoulder-bone, that are articulated with the *Tibia* or Leg bone.

FIG. 4. Shews the Shank-bone.

A. The upper part of that bone which in young Horſes is porous and ſpongy, with ſeveral *Foramina*, or little holes for the paſſage of Blood veſſels and Nerves.

B. The cartilaginous Cap or *Epiphyſis*, by which its upper end is joined to the ſmall bones of the Knee.

C The lower end of the ſame bone, which is porous and ſpongy, as the upper, and alſo perforated in ſeveral places for the paſſage of Nerves and Blood-veſſels.

D. The lower *Apiphyſis* or Head, which both receives and is received in its juncture with the upper end of the great Paſtern.

FIG. 5. Shews the great Paſtern.

A. The middle of that bone which is ſmall, but more compact and ſolid than the two ends.

BB. Two Appendages that form the Fetlock.

C. The lower end by which it is articulated and joined to the leſſer Paſtern.

FIG. 6. Shews the form of the leſſer Paſtern.

A. Its upper round Head which is joined with the lower end of the great Paſtern.

B. Its lower end which is articulated and indented into the Coffin-bone.

FIG. 7. Repreſents the Coffin-bone.

A. The lower part or Toe.

B. The upper part, which receives the end of the little Paſtern.

TAB. V. Shews the *Vertebeæ* of the Loins, *Os Sacrum* and Hip-bones.

FIG. 1. Repreſents the *Vertebræ* of the Loins and *Os Sacrum* united together.

A. The *Vertebræ* of the Loins.

1, 2, 3 4, 5, 6. The ſpinal proceſſes.

3, 3, 3, 3, 3, 3. The ſix lateral proceſſes.

B. The under ſide of the *Os Sacrum*.

1, 2, 3, 4, 5. The five Spines of that bone.

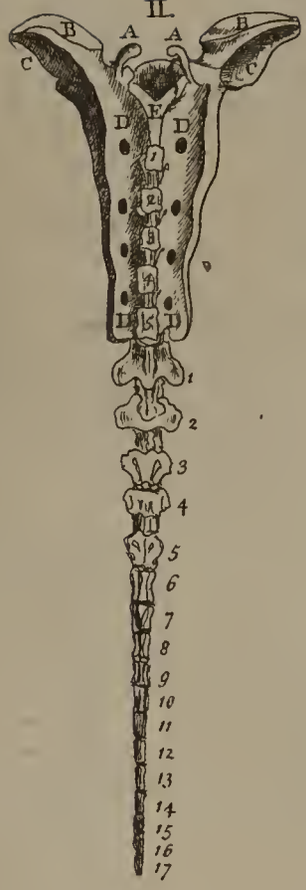
4, 4, 4, 4, 4. Five cavities, with Holes for the paſſage of ſeveral Nerves, Veins and Arteries.

TAB. V.

P. 38.

I.

II.



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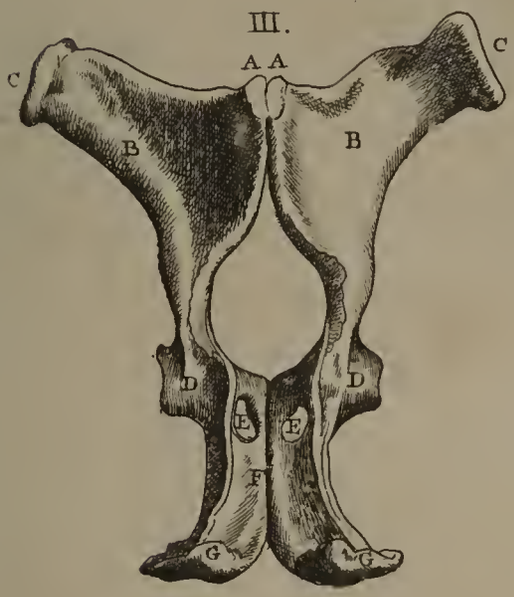

TAB. VI.

P. 39.

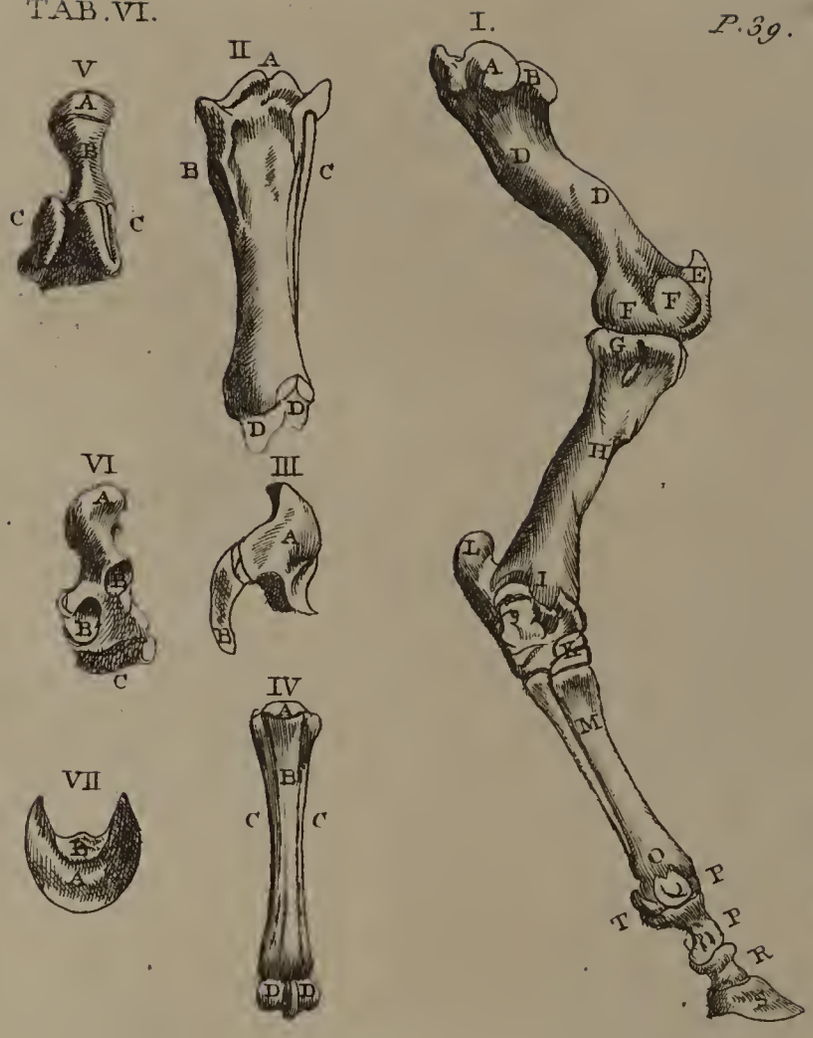

FIG. 2. Shews the under ſide of the *Os Sacrum*, with the bones or junctures of the Tail.

AA. Two ſmall proceſſes by which it is joined to the lowermoſt *Vertebra* of the Loins.

BB. Two other proceſſes that are alſo united with the lowermoſt *Vertebra* of the Loins.

CC. Two cavities that receive the two upper proceſſes of the Hip bones.

DDDD. The ſeveral *Foramina* or holes of the *Os Sacrum*, being eight in number, through which ſeveral branches of Veins, Arteries and Nerves, have their paſſage to and from the ſpinal Marrow.

E. The large foramen or hole in which the ſpinal Marrow is contained.

FIG. 3. Shews the Hip bones, *viz.* the *Ileum*, *Iſchium* and the *Os Pubis*; often called the *Oſſa Innominata*.

AA. The two anterior points or proceſſes by which the two ſides of the *Ileum* are united to each other, and with the Coxendix.

BB. The flat ſides of the *Ileum* which gives form to the Hips, in the hollow parts of which ſeveral Muſcles are placed, which are mentioned in their deſcription.

CC. The two points of the *Ileum* from whence the oblique aſcending Muſcles of the lower Belly have their origins, and into which the deſcending Muſcles are inſerted.

DD. The large Sockets or Cups that receive the round Heads of the *Oſſa Femoris* or Thigh bones.

EE. Two large holes of the *Iſchium*, of an oval figure, covered with muſcular fleſh, through which ſeveral Veins, Arteries and Nerves, have their paſſage.

F. The ſeam by which theſe bones are joined, which in young animals is viſible to the Eye, and may eaſily be ſeparated. This bone is called the *Pubis*.

GG. The points of the *Os Pubis*. From this bone the pyramidal Muſcles derive their origins, and others are connected with it.

TAB. VI. Repreſents the bones of the hind Leg and Foot, both ſingle and united.

FIG. 1. Shew the Thigh bone, Leg bone, Inſtep, Paſterns and Foot, in their proper articulations.

A. The large round Head of the Thigh-bone, which enters the *Acetabulum* or Cup of the Hip bones.

B. Another proceſs of the ſame bone, called its leſſer *Trochanter*.

C. The great *Trochanter*. In theſe, and in the ſtrong ligaments that ſurrounds the Hip joint, ſeveral Muſcles have their origins and inſertions.

DD. Shews the body of the Thigh bone, with its Spines, Contortions, and Protuberances; from whence ſeveral Muſcles that move the Leg are derived, and in which others are inſerted.

E. The Stiffle or Knee pan.

FF. The two lower round proceſſes of the Thigh bone, which are joined with the Leg bone.

G. The upper head of the Leg bone, covered with its cartilaginous *Appiphiſis* or Cup, for its more eaſy motion.

H. The Shank or body of the Leg bone, with its Spines.

I. The lower end of that bone, which is united with the ſmall bones of the Hock.

K. The ſmall bones in the bending of the Hock.

L. The large proceſs that forms the Heel of the Hock.

M. The Inſtep bone.

N. The Splinter bone, that reſembles the *Fibula* of the human Leg.

O. The lower part of the Inſtep bone, that joins with the ſmall bones of the Paſtern joint.

P. The ſmall bones and cartilages that fill up the cavities thereof.

Q. The great Paſtern, which anſwers to the *Tarſus* of the human Foot.

R. The leſſer Paſtern, which anſwers to the *Metatarſus*.

S. The Coffin-bone.

T. The Proceſs of the hindermoſt ſmall bone, which reſembles the Heel of the Hock, and forms the Fetlock; and is properly the Heel bone of a Horſe.

FIG. 2. Shews the Leg bone.

A. The two ſharp proceſſes that are received into the lower end of the Thigh bone.

B. C. The two Splinters that are ſituated one on each ſide of the ſaid bone near its protuberance.

DD. Two ſharp proceſſes that are received into the head of the Inſtep bone.

FIG. 3. Shews the *Patella* or Knee pan, called the Stiffle of a Horſe.

A. The convex or round part of the Stiffle.

B. The ſtrong ligament that ties it to the *Tibia* or Leg bone.

FIG. 4. Shews the Inſtep bone, which correſponds with the Shank bone of the fore Leg.

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A. A round cartilaginous proceſs that joins the lower end of the Leg bone, and the ſmall bones of the Hock.

B. The body of the Inſtep bone.

CC. The two Splinters bones or Bodkins that are more diſtinct, and proportionably larger on this bone than on the preceding.

DD. Two round proceſſes that are united with the great Paſtern, and ſmall bones of the Fetlock joint.

E. A thin rotatory proceſs that turns in a narrow channel of the great Paſtern.

Fig. 5. Shews the Heel bones of the Hock.

A. The cartilaginous *Apiphyſis*, or Top, into which the great maſter Sinew is inſerted.

B. The ſmall Neck or Proceſs of that bone.

CC. Two ſmall uneven bones, which are firmly united to it, within whoſe proceſſes Veſigons or Windgalls are often bred.

Fig. 6. Repreſents the *Os Calcis* or Heel bone, which gives form to the Fetlock, and reſembles the laſt deſcribed bone, but much ſmaller.

A. The Head, into which the back Sinew behind is inſerted: Windgalls are often bred between this and the Inſtep bone, in the cavities on both ſides the Sinew.

BB. Two cavities that receive two proceſſes of the great Paſtern.

C. A round proceſs that enters into a long cavity of the ſaid Paſtern.

Fig. 7. Shews the Coffin bone, which correſponds with the laſt Joints of the Toes in men.

A. The Coffin that is covered with the Hoof.

B. The hollow that receives the round Heads of the lower Paſtern.

Tab. VII. Shewing the whole Sceleton of a Horſe.

A. The Head, including all its parts as articulated with the Neck.

BB. The Blade bone or *Scapula*.

C. The Shoulder bone.

DD. The Leg bones.

EE. The Joints of the Knees, with the ſmall ranges of bones.

FF. The two proceſſes in the bending of the Knees or *Rotulæ*, which both facilitate its motion and prevent diſlocation.

GG. The Shank bones.

HH. The Paſtern joints.

II. The leſſer Paſtern.

KK. The Coffin bones of the fore Foot.
LL. The Hip bones, or *Oſſa Innominata*.
MM. The Thigh bones.
NN. The hind Leg bones.
OO. The bones that form the Heel of the Hock.
PP. The Oſſets or ſmall bones of the Hock.
QQ. The Inſtep bones.
RR. The great Paſtern.
SS. The little Paſtern.
TT. The Coffins.
V. The *Sternon* or Breaſt bone.
X. The *Cartilago Enſiformis*, or ſword-like cartilage, being the point of the Breaſt bone.
YYYY. The Ribs.
Z. Their cartilaginous endings on the Breaſt and Belly.
I. II. III. IV. V. VI. VII. The ſeven *Vertebræ* of the Neck.
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18. The eighteen *Vertebræ* of the *Thorax* and Back.
1, 2, 3, 4, 5, 6. The ſix *Vertebræ* of the Loins.
1, 2, 3, 4, 5. The five Spines of the *Os Sacrum*.
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18. The eighteen Joints of the Coxendix and Tail.

Tab. VIII. Shews the external Muſcles of a Horſe, as they appear on one ſide, when the Skin and fleſhy Panicle is removed.

A. The orbicular Muſcle of the Eye.
a. The temporal Muſcles, and Muſcles of the Cheeks.
b. The orbicular Muſcle of the Mouth.
c. The Muſcles of the Noſe.
BBB. The Muſcles of the Neck, with thoſe that deſcend to the Back and Shoulders, to aſſiſt in the motions of thoſe parts.
C. A ſtrong nervous ligament under the Mane, which keeps the Neck firm and ſteady in its motions.
D. The pectoral Muſcles.
EEEE. The proper Muſcles of the *Scapula* or Shoulder blade, with thoſe that move the Shoulder.
F. The Muſcles that move the fore Leg.
GG. The Muſcles that move the Paſtern and Foot.
HH. The Muſcles of the Back and Loins.
IIIII. The principal Muſcles of the Hips that move the Thigh.

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TAB. IX. P. 47.

K. The Muſcles that move the hind Leg.

LL. The Muſcles that move the hind Paſtern and Foot.

MM. The Inſtep bones of both the hind Legs, as expoſed in the diſſection of the Muſcles.

NNN. The Ribs as they appear when the Skin and fleſhy Pannicle and Muſcles are removed.

1, 2, 3, 4, 5. The *Serratus Anticus*, from their reſembling the Teeth of a Saw.

6, 6, 6, 6, 6, 6. The *Serratus Poſticus*. Both which aſſiſt in widening the *Thorax* or Cheſt, in reſpiration.

Tab. IX. Shews a Horſe with his Face towards us, that we may view the Muſcles as they appear on his fore parts.

AA. A pair of the Muſcles belonging to the Ear.

BB. Another pair of the Muſcles of the Ear.

CC. Another pair belonging to the Ear.

DD. The temporal Muſcles.

EE. A pair of Muſcles of the Eye-lids.

FF. Another pair belonging to the Eye-lids,

GG. A pair of Muſcles that belong to the Lips and Noſe.

H. Another pair, belonging in common to the Lips and Noſe.

II. Muſcles that move the fore Leg and Elbow.

KK. The origins of ſome of the Muſcles of the Head and Neck.

L. The Muſcles of the *Larynx*.

MMMM. Two principal Muſcles belonging to the Head and Neck.

NN. Another principal Muſcle belonging to the Neck.

OO. Muſcles belonging to the fore Leg and Elbow.

P. The Muſcles called the *Deltords* of the Shoulder.

Q. Part of the intercoſtal Muſcles.

R. *Serratus Poſticus*, with part of the oblique Muſcles of the lower Belly.

SSS. The principal Muſcles of the Hips, being thoſe that chiefly move the hind Legs.

TT. The Muſcles of the Knee and Hock, that move the fore and hind Paſterns.

Tab. X. Shews two different Views of the Muſcles of the fore Leg of a Horſe.

Fig. 1. Shews the anterior or fore part of the fore Leg.

AA. The principal Muſcle of the Knee, which aſſiſts in moving the Leg.

B. One of the chief Muſcles of the Paſterns, which divides below the Knee in two Tendons, which are inſerted into the Paſtern.

C. A ſtrong annular Ligament, by which the Tendon of the laſt deſcribed Muſcle is braced down to the Knee, being of ſo great a length down to the Paſtern, that without ſuch an attachment would intirely loſe its ſpring and ability to motion.

D. The uppermoſt Muſcle of the Knee, which runs obliquely acroſs, and is inſerted in the hind part of it.

E. The axillary Vein, which appears when the Skin is carefully taken off, to ſhew the Muſcles in their proper ſituation.

FF. The Shank bone, as it appears when the anterior Muſcles of the Leg are diſſected.

Fig. 2. Repreſents the back or hind part of the fore Leg.

AA. Two of the principal Muſcles that bend the Knee.

BB. Another principal Muſcle of the Knee.

CC. One of the principal Muſcles that bends the Paſtern.

D. Another Muſcle of the Paſtern.

EE. The great Tendon or back Sinew which is inſerted into the Heel, and is plainly viſible when the Muſcles are diſſected.

F. The ſtrong annular ligament that braces the back Sinew under the Paſtern, and is often the ſeat of humours and ulcers, in foul or fleſhy legged Horſes.

G. The Tendon of another Muſcle of the Paſtern, that runs on one ſide of the back Sinew, and partly under it.

H. So much of the Shank bone as appears in this view.

I. The Splinter bone of the fore Leg, which correſponds with the *Radius* of the human Arm.

Tab. XI. Repreſents two different views of the hind Legs of a Horſe, to ſhew the principal Muſcles.

Fig. 1. Shews the anterior or fore part of the hind Leg.

AAAA. One of the principal Muſcles of the hind Paſtern, which deſcends from the Hip to the Heel.

B. One of the chief Muſcles that bends the Hock.

C. One of the principal Muſcles that extends the Paſtern.

D. A ſmall fleſhy Muſcle that helps to turn the hind Leg.

EE. Two ſtrong cartilaginous Ligaments that brace down the long Muſcles of the Paſterns that deſcend from the inſide of the Thigh.

FF. The bones on the inſide of the Hock, that appear when the Skin is taken off to ſhew the Muſcles.

TAB. X.

P. 51.

Fig. I.

Fig. II.

TAB. XI.

P. 53.

Fig. II.

Fig. I.

GG. Branches of the internal crural Veins.

H. The Inſtep bone,

I. A rough bony proceſs, in which ſeveral Muſcles have their origins and inſertions.

KL. The Tendons of ſome of the Muſcles that are inſerted into the Heel.

FIG. 2. Shews the hind or back part of the hind Leg, with its Muſcles.

A. A Muſcle of the Leg called the *Sartorious* Muſcle in men, and helps to turn the Leg inwards.

B. One of the principal Muſcles of the Hock.

C. Another principal Muſcle of the Hock.

D. One of the Muſcles of the Thigh, cut off above its inſertion into the Leg.

E. One of the Muſcles of the Leg, inſerted into the upper inſide proceſs of the Hock.

FF. The combination of ſeveral Muſcles that are united in the great Tendon or maſter Sinew, that is inſerted into the Heel of the Hock, called in the human body the *Tendo Achillis.*

G. One of the Paſtern Muſcles that paſſes over the outſide of the Hock.

H. The ending or termination of the great Tendon that forms the Heel of the Hock.

II. The Muſcles of the Paſterns that run over both ſides of the Paſtern joint.

KK. The tendinous Muſcle that is inſerted into the Fetlock, and is ſometimes called the back Sinew of the hind Leg.

LL. The Tendons of the Muſcles that deſcend on both ſides of the ſmall of the Inſtep or hind Leg, and are inſerted into the Coffin bone to move the Foot, with ſome twigs of Veins which appear when the Skin is taken off.

M. The tendinous part of a Muſcle that paſſes down to the bottom of the Foot, correſponding with the *Plantaris* in the human Foot, and forms in a Horſe the fleſhy part of the Frog, *&c.*

N. Other nervous Muſcles that are inſerted into the lower proceſſes of the leſſer Paſtern, and into the Coffin bone.

TAB. XII.

TAB. XII. Repreſents the Guts, as they appear in their natural Situation, when the lower Belly is laid open.

AAAAAAAA. The Gut colon, its ſeveral circumvolutions and windings, with its folds and purſes: Under which lye the ſmall Guts.
B. The *Cæcum* or blind Gut.
C. The ſtreight Gut.
D. The *Penis* or Yard.
E. The Fundament.

TAB. XIII. Repreſents the Stomach in two different views, the one whole the other cut open, to ſhew the *Rugæ* or furrows on its inſide. Alſo the courſe of the *Chyle*, &c.

FIG. 1. Shews the Stomach intire.
AAA. The outſide of the Stomach, with the ramifications or branchings of the Blood-veſſels.
B. Part of the upper Orifice or Gullet.
C. The *Pyloris*, or lower Orifice, which enters the ſmall Guts.

FIG. 2. Shews the Stomach, with a piece of it cut off, that the inſide may be ſeen.
AAA. The outſide of the Stomach.
B. The Gullet cut off where it opens into the Stomach.
C. The lower Orifice.

FIG. 3. Shews the lacteal Veſſels proceeding from the ſmall Gut to the *Ductus Thoracius*.
AAA. Part of the ſmall Gut cut of, with the lacteal or milky veſſels riſing out of it.
BBB. The courſe of the ſame Veſſels along the Meſentery to the Thoracick Duct; with the ſmall Blood-veſſels of the Meſentery.
CCC. The Thoraieck Duct cut off, which receives the *Chyle* or milky liquid from the ſmall Guts by the lacteal Veſſels, *&c.*
DD. Part of the inſide of the Back bone.
EEEE. Part of the Ribs cut of.

TAB. XII. P. 59.

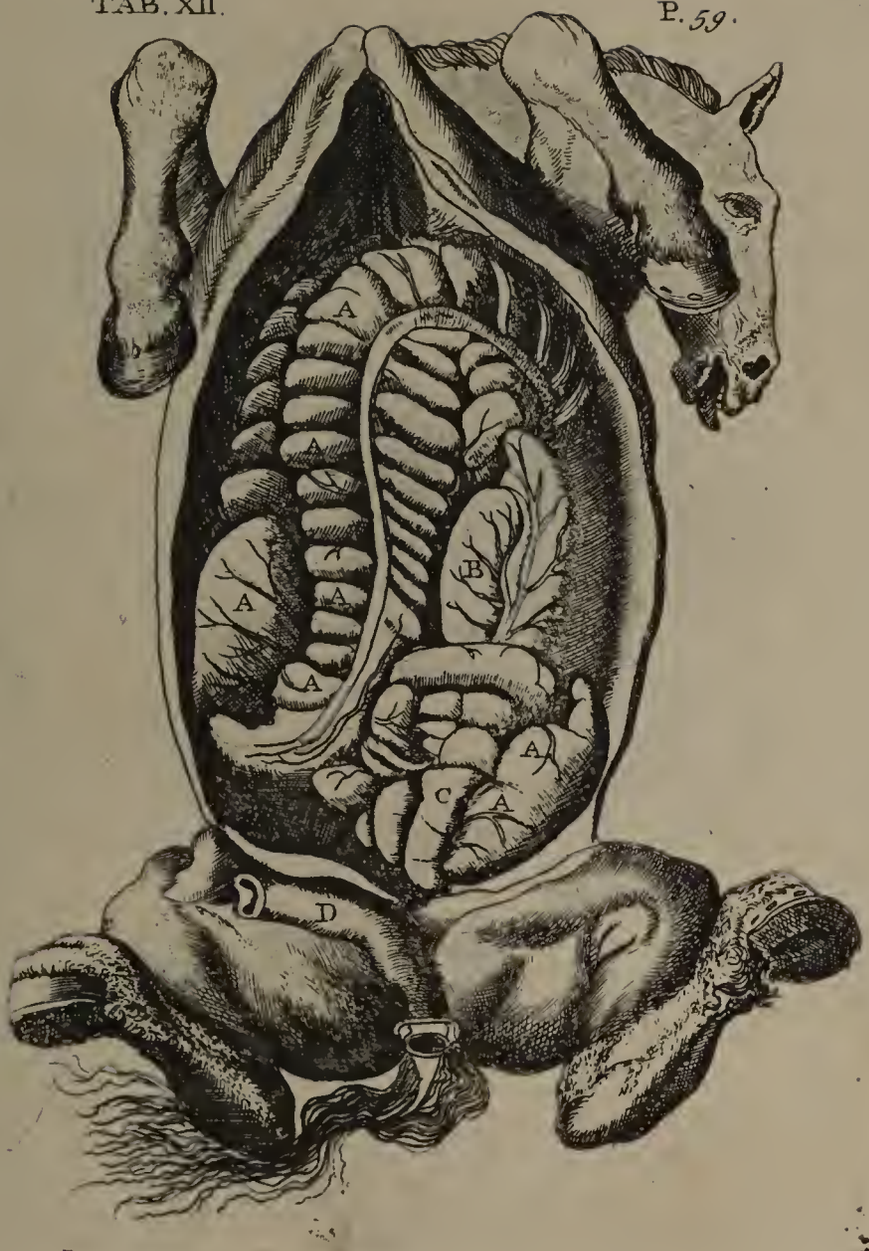


Fig. II.

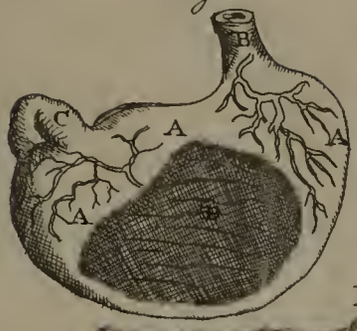
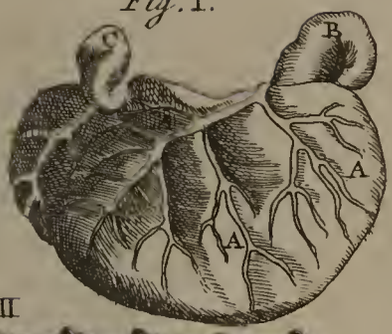


Fig. I.



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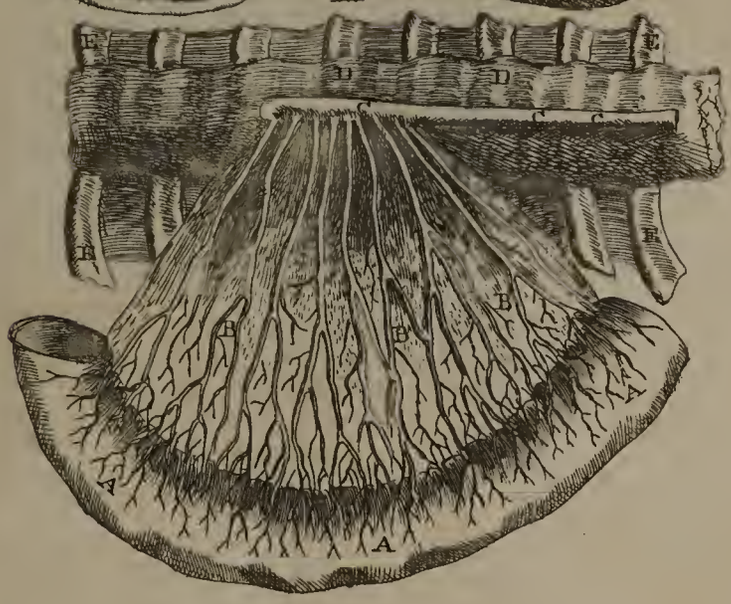
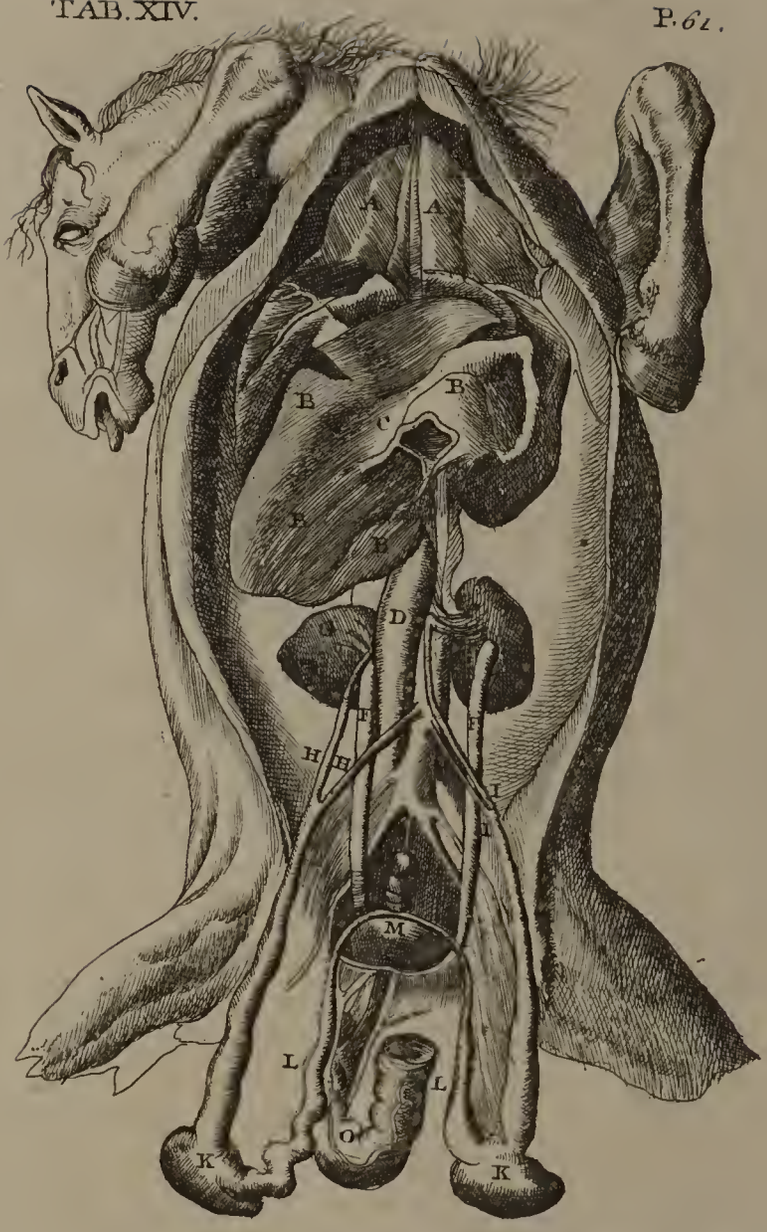


TAB. XIV. P. 61.



TAB. XV. *Fig.* I.

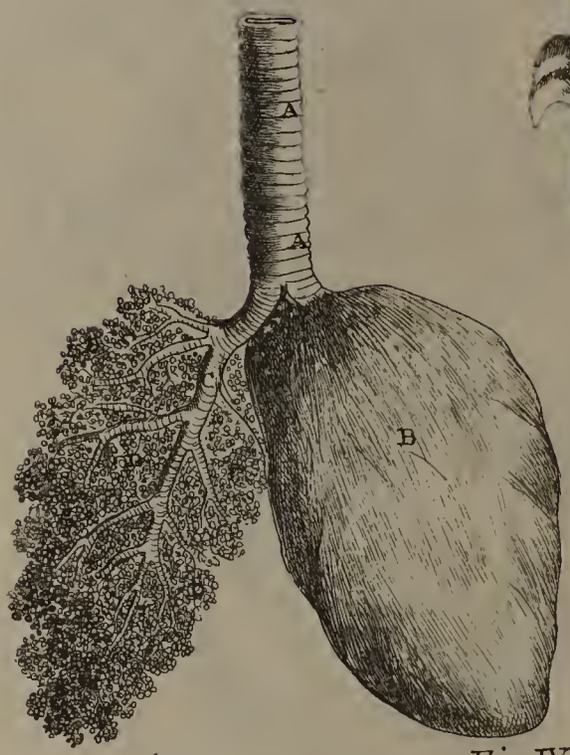


Fig. II. P. 64.

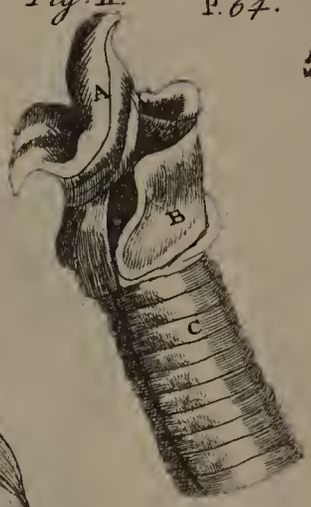
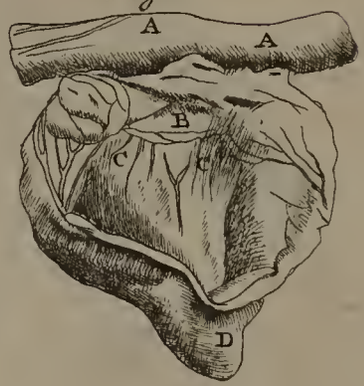


Fig. III.

Fig. IV.



TAB. XIV. Sheweth the principal parts contained in the lower Belly of a Horſe, when the Guts are carefully taken out and removed.

AA. The Midriff turned up to ſhew its under ſide.
BBBB. The Liver.
C. The Gall-pipe cut off before its entrance into the *Duodenum* or ſmall Gut.
D. The aſcending great Vein, or *Vena Cava.*
E. The *Aorta Deſcendens*, or the deſcending great Artery.
FF. The Ureters which convey the urine from the Kidneys to the Bladder.
GG. The Kidneys.
HH. The ſpermatick Veſſels on the right ſide.
II. The ſpermatick Veſſels on the left ſide.
KK. The *Teſtes* or Stones.
LL. The *Vaſa Deferentia.*
M. The Bladder.
N. The *Inteſtinum Rectum*, or Streight Gut.
O. The *Penis* or Yard.

TAB. XV. Shews the Lungs, the Head of the Windpipe, with two different views of the Heart.

FIG. 1. Repreſents the whole ſubſtance of the Lungs.
AA. Part of the Windpipe.
B. The left Lob of the Lungs, covered with its proper Membrane.
CC. The principal branch of the Windpipe on one ſide, with its ſeveral ramifications through the Lungs.
DDDD. The innumerable Veſſicles or Air-bladders that ariſe from the extremities of the ſmall branches of the Windpipe, when they are blown up and filled with air.

FIG. 2. Shews the *Larynx*, with part of the Windpipe.
A. The Epiglots.
B. The *Cartilago Scutiforme*, or ſhield-like cartilage.
C. The cartilaginous rings of the Windpipe.

FIG. 3. Shews the left Ventricle of the Heart laid open.
AA. The external or fleſhy ſubſtance of the Heart.

BBB. The pulmonary Vein which opens into the left Ventricle.

C. The left Ventricle which receives the Blood from the pulmonary Vein.

FIG. 4. Shews the right Ventricle of the Heart laid open.

AA. The *Vena Cava* cut off above and below.

B. The entrance of that Vein into the right Ventricle.

CC. The inside of that Ventricle, with the Valves and the *Fibrillæ*, or little Fibres that fasten the ends of the Valves to the substance of the Heart.

D. The *Apex* or point of the Heart.

TAB. XVI. Represents the principal Veins, as they are distributed into all parts of the Body of a Horse.

AA. The *Vena Cava*, or hollow Vein which receives the Blood from all the other Veins, in order to its conveyance into the Heart.

BB. The axillary Veins which receive the Blood from the fore Legs, Breast and Belly, *&c.*

CC. The Veins of the off Leg before, which empty themselves immediately into the axillary Veins.

DD. The Veins of the left or near Leg before, which enter the left branch of the axillary Vein.

EE. The external jugulars, with their several ramifications that return the Blood chiefly from the external parts of the Head and Neck into the *Cava*.

FF. The internal jugular Veins that return the Blood chiefly from the Brain, *&c.*

GG. The Veins dispersed on the Face and Cheeks, that empty themselves chiefly into the external Jugulars.

H. The *Vena sine Pari*, or *Azygos*, which opens into the descending Trunk of the *Cava* before it reaches the Heart.

II. The coronary Vein, with its ramifications upon the Heart.

KK. The Veins peculiar to the Midriff.

LL. Those peculiar to the Liver.

MM. The Veins peculiar to the Kidneys.

N. The Junction of the Iliack Veins in the *Cava Ascendens*, or the ascending *Cava*.

OO. The Veins of the Testicles.

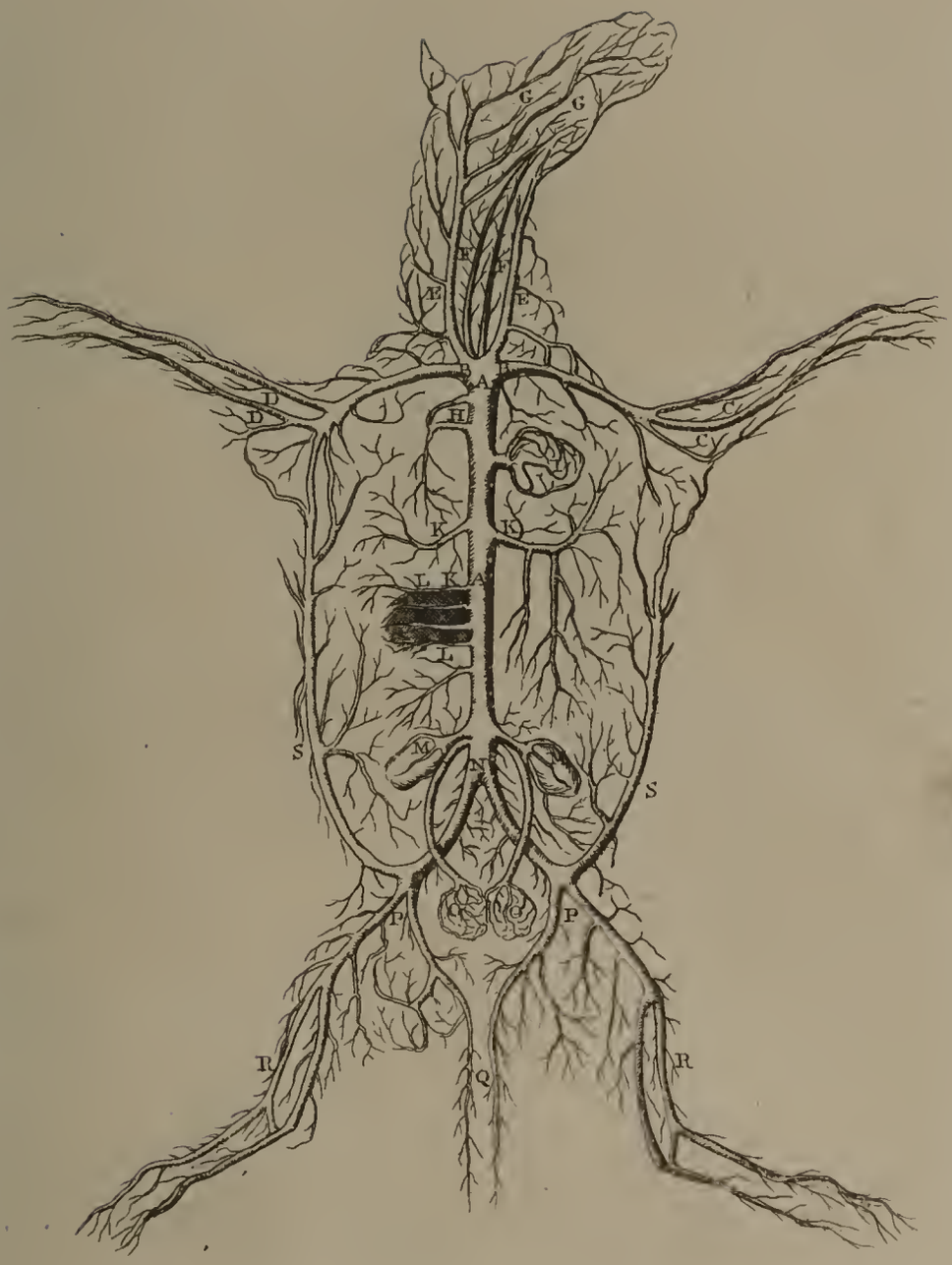
PP. The branches of the Iliacks that are dispersed upon the Thighs and hind Legs.

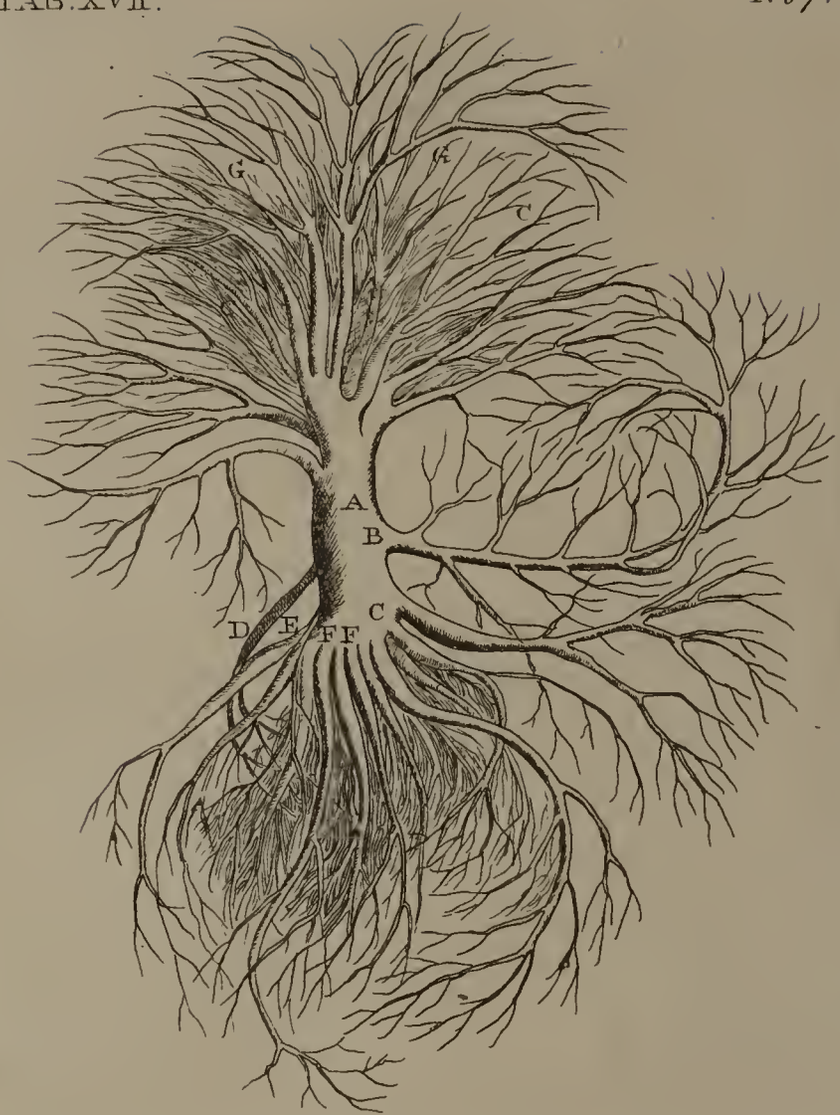
Q. The Veins of the Tail.

RR. The crural Veins that are dispersed on the Legs and Feet.

TAB. XVI

P. 67.

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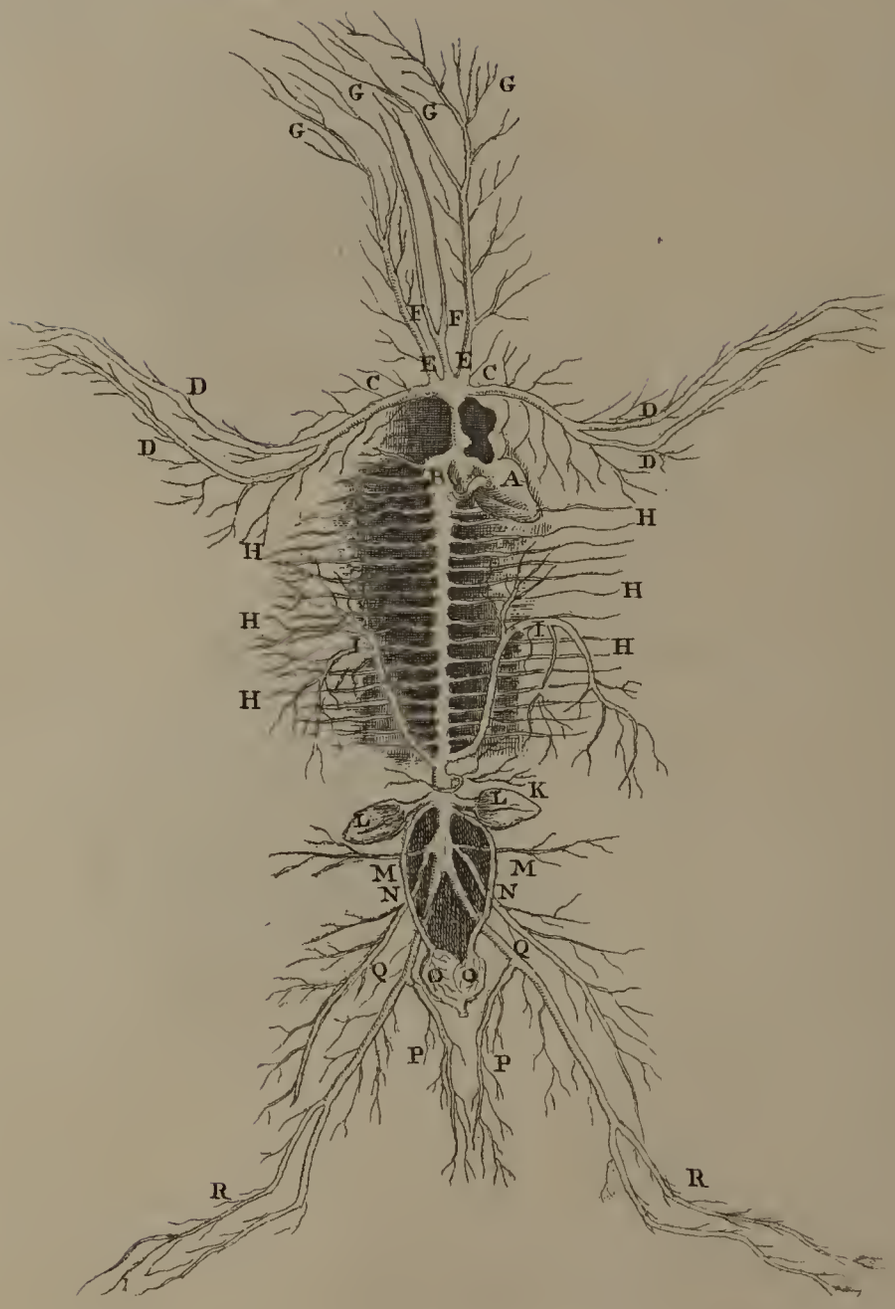
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SS. The Veins that run along each ſide of the Belly, which receive the Blood from all the external parts thereof, and open into the Iliacks near the Groins.

Tab. XVII. Repreſents the *Vena Porta*, as it ariſes from the Guts and other Inteſtines, with its diſtribution through the Liver.

A. The Trunk of the *Vena Porta*.

B. A principal branch that riſes from the Stomach, the Spleen, *Duodenum*, *Omentum*, &c. and opens into the Trunk of the *Porta* near its middle.

C. Another principal branch that riſes chiefly from the Veins of the Meſentery, the Gut Colon, and from the *Rectum* or ſtreight Gut.

D. A conſiderable branch from the Meſentery, the Colon and *Cæcum*, or blind Gut.

E. Two conſiderable branches from the Meſentery and Colon that unite near the Trunk of the *Vena Porta*.

FF. Several conſiderable branches of Veins that ariſe from the Meſentery, and from all the ſmall Guts and other Inteſtines, and open into the entrance of the *Vena Porta*.

GGGG. The branches of the *Vena Porta*, as they are diſtributed through all parts of the Liver.

Tab. XVIII. Shews the Arteries, and their diſtribution into all parts of the Body of a Horſe.

A. The Heart, with its coronary Arteries.

B. The deſcending Trunk of the *Aorta* or great Artery, making a channel along the Back.

CC. The ſubclavian Arteries that paſs under the Collar bone to the fore Legs.

DDDD. The ſuperior and inferior cubital Arteries that are diſperſed along the fore Legs and Feet, conveying the Blood for the nouriſhment of thoſe Parts.

EE. The external carotids that carry the Blood upwards to the Head, ſending out branches as they paſs along to the muſcular parts of the Neck.

FF. The internal carotid Arteries, which alſo take their courſe to the Brain and other parts of the Head, into which they enter by different *Foramina* or holes.

GGGG. The moſt conſpicuous branches of the external and internal Carotids, as they communicate one with another in the Head and upper

part of the Neck and Jaws, and have their different names and denominations from the ſeveral places to which they are detached.

HHHHHH. The intercoſtal Arteries which paſs out between the Ribs on each ſide, and are beſtowed on all parts of the Trunk of the Body,

II. The Arteries that are beſtowed on the Midriff or Skirt on the Stomach and other internal parts.

KK. The Arteries that are diſperſed on the Spleen or Melt, the Liver, Meſentery, and ſmall Guts.

LL. The Arteries beſtowed on the Kidneys.

MM. The lumbal Arteries that are diſperſed on the Bladder, *Inteſtinum Rectum*, and other parts within the *Pelvis*.

NN. The ſeminal Arteries that go to the Teſticles.

OO. The Arteries diſperſed on the Teſticles.

PP. The Arteries that proceed from the Iliacks, and are beſtowed on the Tail.

QQ. The Iliack Arteries that branch off into the Thighs.

RR. The crural Arteries that are beſtowed on the Legs and Feet.

Tab. XIX. Shews one ſide of the Head and Neck of a Horſe, with the principal Veins as they appear when the Skin and Fat is removed.

AAA. The external jugular or Neck vein, which is chiefly opened in moſt of the diſorders of Horſes.

B. One of the principal branches of that Vein, which divides under the Jaw, and receives ſome branches from the internal parts of the Head, and others from the Temples, Cheeks, and from the upper Jaw.

C. Another principal branch of the ſame Vein, which divides itſelf behind the upper Jaw, and receives branches from the Parotid Glands, and from the *Cerebellum*, through the *Foramina* or holes in the baſis of the Skull, and other more external branches from behind the Ear.

D. A branch of the ſame Vein which proceeds externally from the Eyes and Temples, and are called the Temporal, and by our Farriers the Temple Veins.

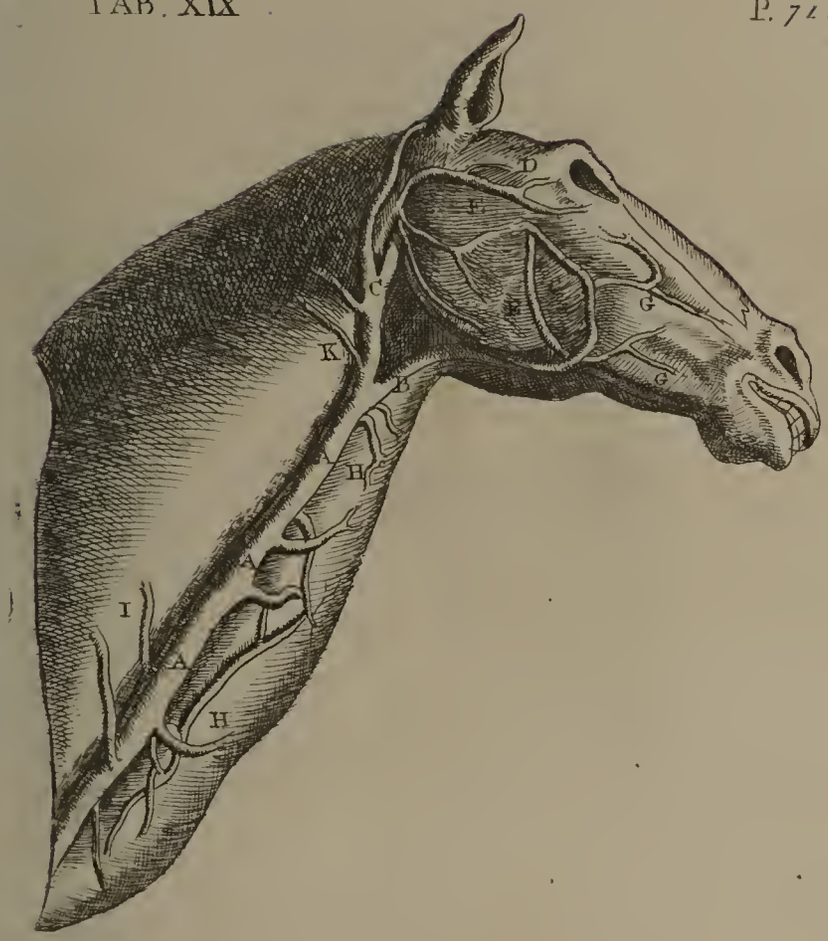
EE. The external branches called the Cheek Veins, which open into the jugular Vein.

F. The union of two branches, one from the Noſe along the upper Jaw, and another reflected back from its paſſage through the fore part of the Skull below the Eye.

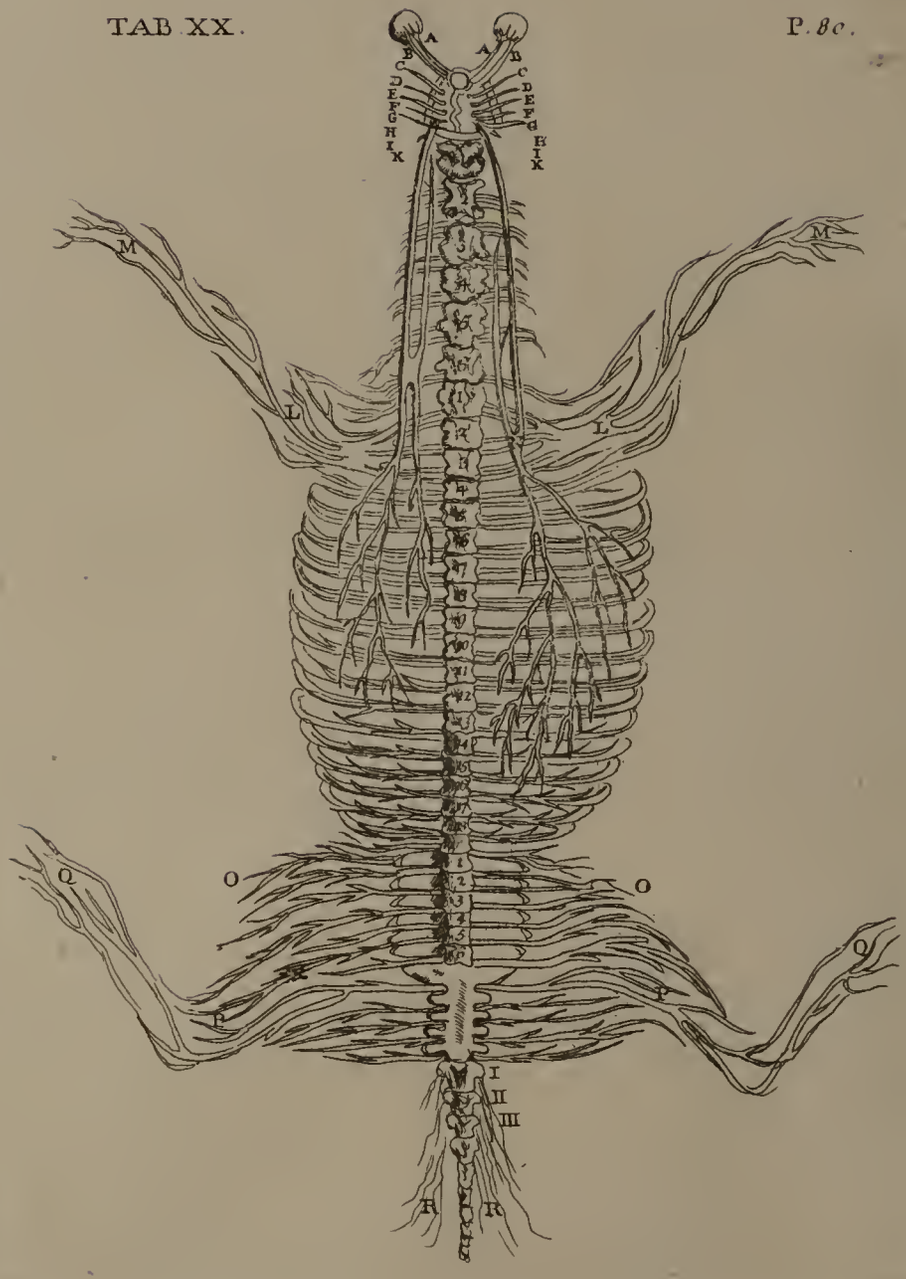
GG. Two branches, one that proceeds from the upper Jaw, and the other from the under Jaw.

TAB. XIX

P. 74.



TAB XX. P. 80.



HH. Several ſmall branches from the Muſcles of the fore part of the Neck, that open directly into the under ſide of the jugular or Neck Vein.

I. Two branches that proceed from the Muſcles of the lower part of the Neck and Shoulders, and open into the ſame Vein

K. Two other branches that proceed from the upper part of the Neck, and open into the upper part of that Vein.

Tab. XX. Repreſents the Nerves, and their diſtribution into all parts of the Body of a Horſe.

AA. The firſt pair are the olfactory Nerves that go the Noſe, and the organs of Smelling.

BB. The ſecond are the optic Nerves that contribute to ſight or ſeeing.

CC. The third pair, *viz.* the *Motores Oculorum*, or Movers of the Eyes, are the Nerves that are ſpread on the Globe of the Eye.

DD. The fourth, called the pathetick Nerves, becauſe they expreſs ſome particular paſſions.

EE. The fifth pair, that are chiefly ſpread on the Eye-lids and Muſcles of the Eyes, and aſſiſt their motions.

FF. The ſixth pair go to the *Abductor* Muſcle of the Eye, and communicating with a reflected branch of the fifth forms the intercoſtal.

GG. The ſeventh pair go chiefly to the Ear, and are diſperſed on the organs of Hearing.

HH. The eight pair, called the *Par Vagum*, becauſe they form the recurrent Nerves which ſend branches to the *Viſcera*, and communicate with almoſt all the other Nerves.

II. The ninth are chiefly ſpread on the ſubſtance of the Tongue, and are the inſtruments of Taſting.

KK. The tenth pair belong chiefly to the *Extenſor* Muſcles of the Head.

LL. The branches that go to the Shoulders.

MM. The branches that go to the fore Feet and Paſterns.

NN. The recurrent Nerves.

OO. The branches that are ſpread on the Thighs, from the *Vertebra* of the Loins.

PP. The branches that are diſtributed on the Hocks, from the *Os Sacrum*.

QQ. The Nerves that are diſtributed on the hind Paſterns and Feet.

1, 2, 3, 4, 5, 6. The Nerves that proceed from the medullary ſubſtance contained in the ſix *Vertebræ* of the Neck.

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18. The Nerves that proceed from the medullary ſubſtance or Pith of the eighteen *Vertebræ* of the *Thorax* and Back, which go to the Ribs and all parts of the Trunk.

1, 2,

1, 2, 3, 4, 5, 6. The Nerves that proceed from the Pith or medullary ſubſtance of the ſix *Vertebræ* of the Loins.

IIIIII. The Nerves that proceed from the Pith of the three uppermoſt *Vertebræ* of the Tail.

Tab. XXI. Repreſents the Eye of a Horſe in ſeveral views.

Fig. 1. Shews the Eye, with the *Tunica Adnata* or upper Tegument removed.

AAAA. The *Tunica Adnata* ſeparated from the Body of the Eye, and reverſed or turned back.

B. The *Iris*.

CC. The *Cornea*.

D. The Pupil.

Fig. 2. Shews the Eye taken out of the Head, with the Muſcles as they appear without diſſection.

A. The Pupil or Sight of the Eye, as it is commonly called.

B. The *Cornea*, or horney Coat of the Eye.

CC. The *Tunica Adnata*, or common Coat of the Eye.

DDD. The Muſcles of the Eye.

EEE. Their inſertions into the Eye.

F. The optic Nerve cut off.

Fig. 3. Repreſents the Eye, with the Muſcles ſeparated and diſſected.

AAAA. The four principal Muſcles of the Eye ſeparated and ſpread open.

BB. The White of the Eye, which in a Horſe is much variegated with brown lines or ſtreaks.

CC. The *Cornea* or horney Coat of the Eye.

D. The place of the Pupil.

Tab. XXII. Repreſents in two figures of the hind Leg, the blood Spavin and bone Spavin.

* Fig. 1. A. Shews the inſide of the Hock, with the *Varix* or blood Spavin, as the obſtructed Veins appear in that diſtemper.

Fig. 2. B. Shews the bone Spavin, on the inſide of the lower part of the Hock, and upper end of the Inſtep bone.

* See Page 381.

TAB. XXI. *Fig.* I.

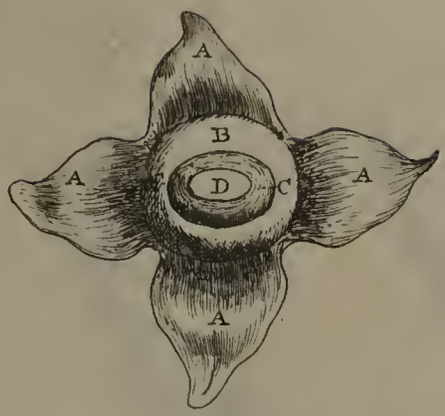
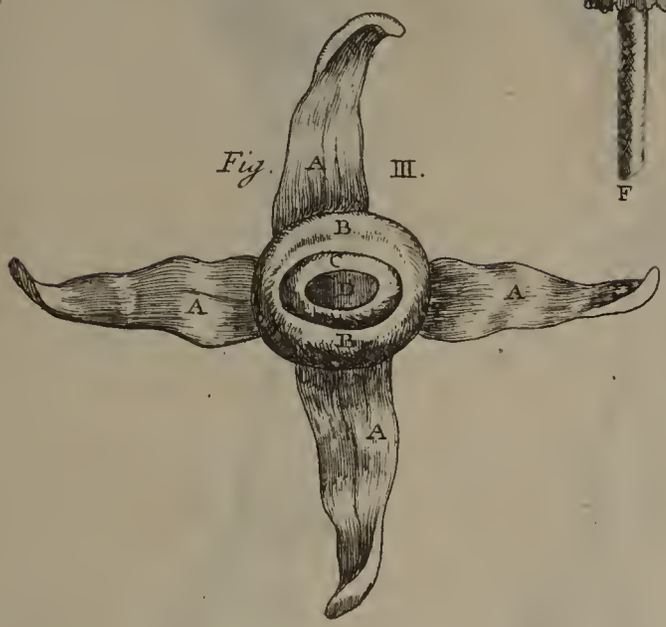


Fig. II.

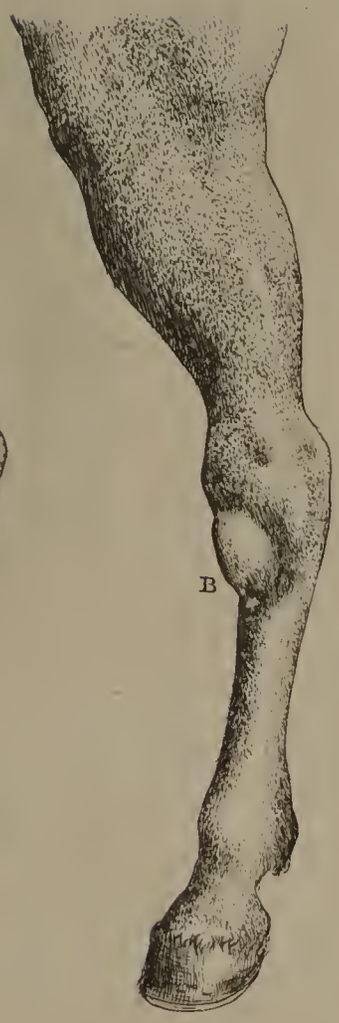
P. 85.

Fig. III.



TAB. XXII. P. 364.

Fig. I. *Fig.* II.



TAB. XXIII.

Fig. II.

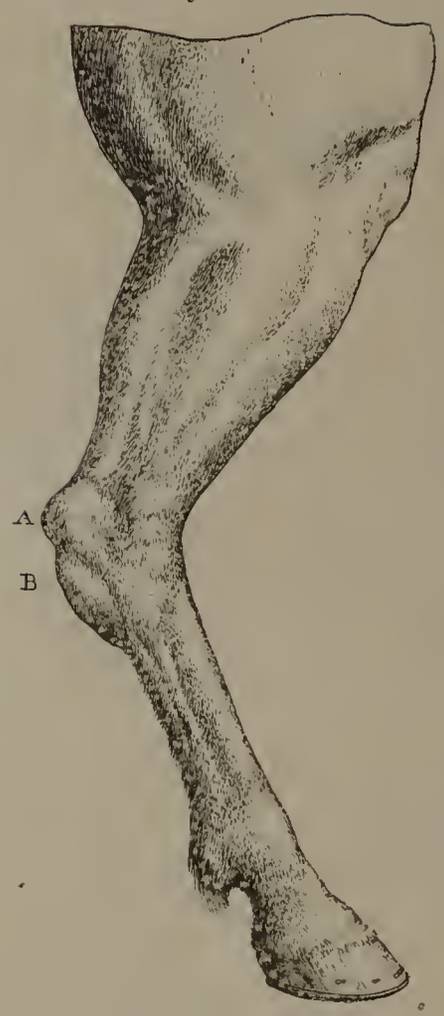
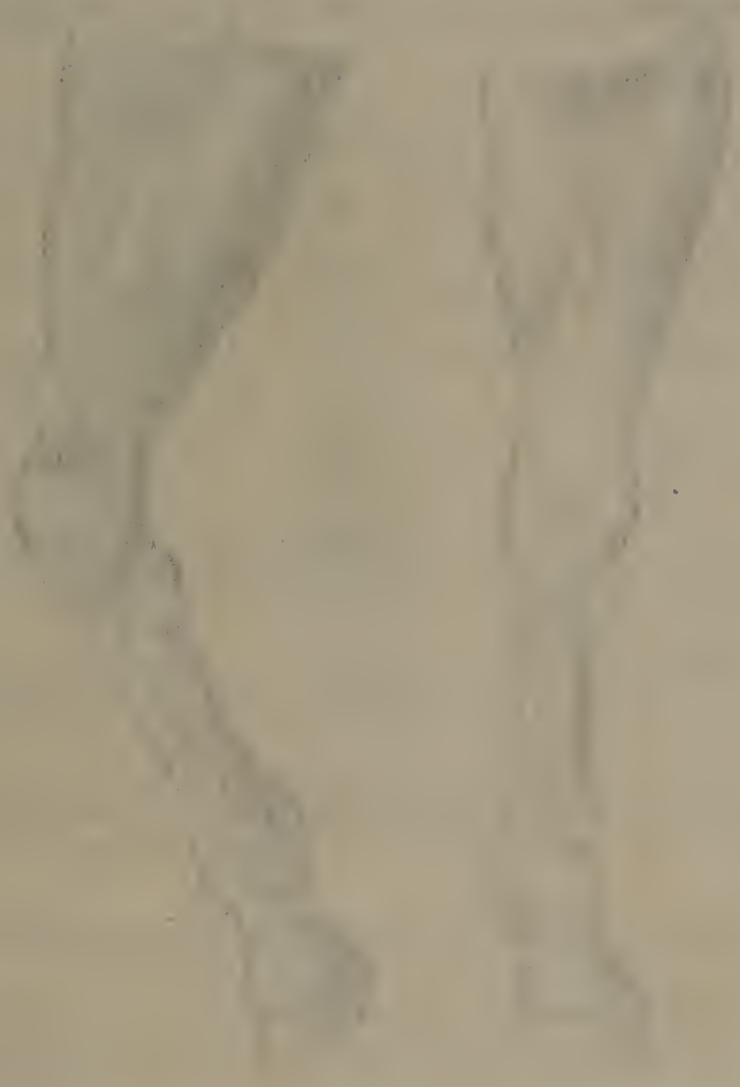


Fig. I.

P. 372.

TAB. XXIV. *Fig.* I. *Fig.* II. P. 375.



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Tab. XXIII. Repreſents in two figures the Ring bone and Curb.

Fig. 1. Shews the fore Leg of a Horſe in a ſtreight poſition.
AAA. The Ring bone or circular hard ſwelling round the Paſtern joint.

Fig. 2. Shews the hind Leg of a Horſe in a bending poſition.
A. The Heel of the Hock.
B. The Curb or hard Swelling, as it appears when grown to its full extent.

Tab. XXIV. Repreſents in two different views of the fore Leg, the various kinds of Splents.

Fig. 1. The hinder or back Part of the fore Leg, to ſhew a thorough Splent.
AA. The Splent ſituated between the Shank bone and the back Sinew, appearing on both ſides thereof.

Fig. 2. The fore Leg ſideways, to ſhew the more uſual and ordinary kind of Splents.
A. A Splent under the Knee, near the Joint.
B. A Splent on the middle and fore part of the Shank bone, disfiguring the Leg.
C. A more dangerous Splent on the back part of the Shank bone, near the inſertion of the back Sinew.

Tab. XXV. Repreſents in two figures the ſeveral kinds of Windgalls on the fore Legs.

Fig. 1. Shews the Windgals or flatulent Tumors that appear on the fore part of the Leg.
A. B. Two windgalls that ſometimes ariſe under each ſide of the Knee.
C. A Windgall on the Shin, between two muſcular Tendons a little above the Fetlock joint.

Fig. 2. Shews the Windgalls on the hind part of the fore Leg, with an uncommon one above the Knee.
A. A large Windgall between the Tendons of the Muſcles above the Knee.
B. A Windgall under the Knee behind.
CC. The common and uſual Windgalls on each ſide the back Sinew.

TAB. XXVI. Shews the Wens and Tumors to which ſome Horſes are ſubject about their Hocks.

FIG. A. 1. A large Wen, as it appears on the Heel of the Hock.

FIG. 2. A. B. C. Windgalls or flatulent Tumors, that ariſe in all the hollow parts of the Hock.

TAB. XXVII. Repreſents a large Wen on the Elbow of a Horſe, mark'd A.

TAB. XXVIII. Repreſents the Poll-Evil.

A. A large Swelling behind the Poll.
B. The matter running from the Orifice on the Top of the Poll where it uſually breaks.

TAB. XXIX. Shews the *Fiſtula*, viz. a Tumor that ſometimes ariſes on the Withers of a Horſe, and produces a fiſtulous ulcer.

A. The Tumor as it appears on one ſide of the Withers.
B. The appearance it makes on the other, when it riſes on both ſides.
C. The place where its uſually breaks when it comes to maturity.
DD. The matter running from the Orifice.

TAB. XXX. Repreſents a Quittor, and falſe Quarter in two figures.

FIG. 1. Shews the Quittor.

A. The Orifice from whence the matter generally flows.
B. The matter running down the Quarter.
CC. The ſwelling round the Coronet.
D. The ſinking and depreſſure of the Hoof, cauſed by the malignity of the ulcer.

FIG. 2. Shews the falſe Quarter.

A. The Seam on the Quarter, from the Coronet to the bottom of the Foot.

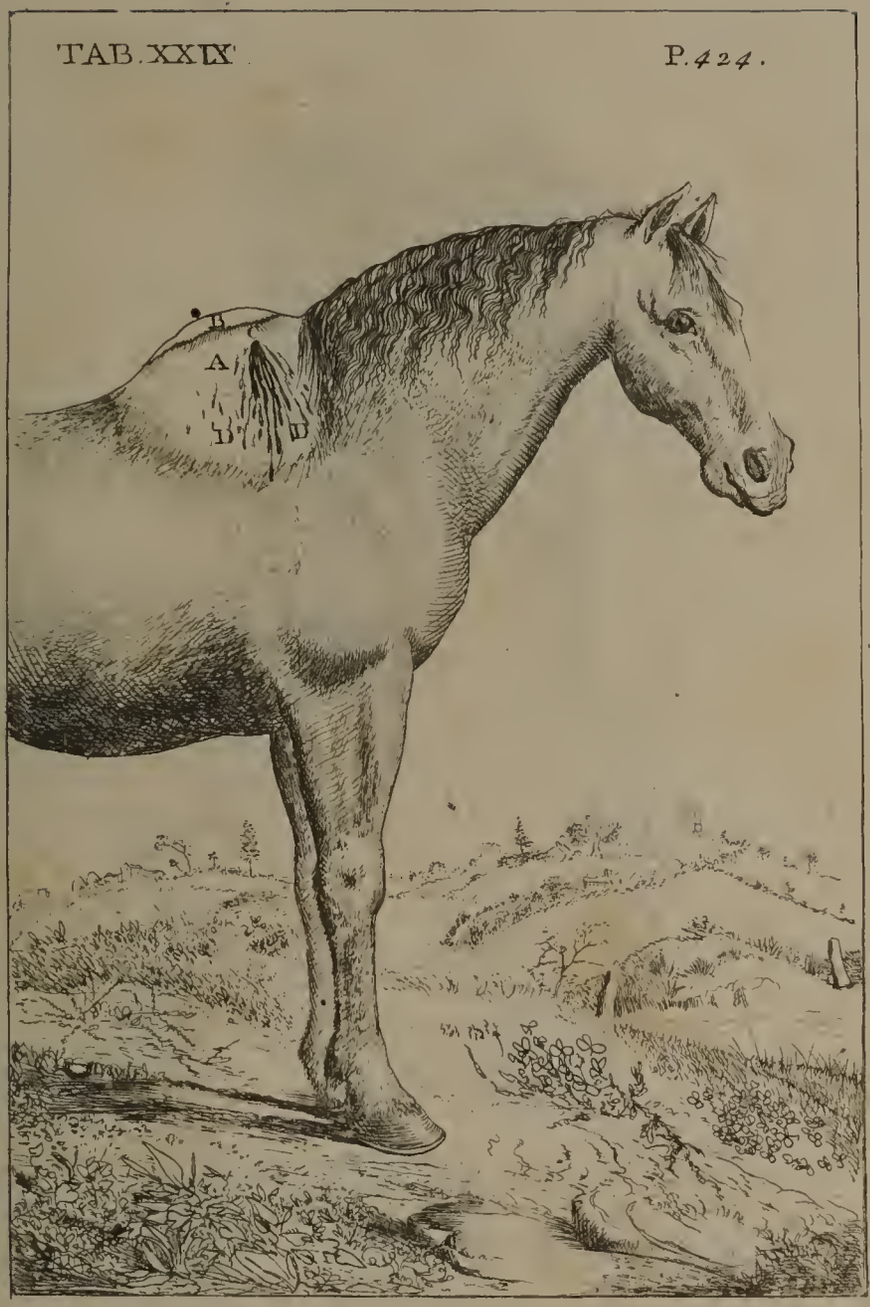
F I N I S.

I II

TAB. XXVII. P. 387.

TAB. XXVIII. P. 417.

TAB. XXIX. P. 424.



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A
C
C
D

Running Thrush.

Canker in the Foot.

THE

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FINIS.